

Faculty of Law
University of Helsinki
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CORRELATED INTELLECTUAL PROPERTY RIGHTS

A FOUNDATIONAL SOLUTION TO THE PROBLEMS OF
PATENT HOLDUP AND PATENT HOLDOUT

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ACADEMIC DISSERTATION

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Forward and Acknowledgments

While working as a financial consultant, I became aware of the problems that the small technology companies were having with respect to monetising the use of their intellectual property. Usually this involved a multinational technology company using their technology without their permission. The directors of the companies explained to me that there was little that they could do about it, since they had neither the financial or legal resources to pursue protracted litigation. Looking for information on this problem, I became aware of another problem which was dominating the discussion in the field of intellectual property law. That problem involved intellectual property owners using the threat of injunctive action to coerce those same multinational technology companies into paying excessive licensing rates. Instinctively I came to believe that these two problems generally referred to as “patent holdout” and “patent holdup” were related.

To gain a better understanding of these problems, I enrolled in online courses at the University of London “Queen Mary” where I finished a Diploma in Law focused on intellectual property. Shortly after I finished those studies I made a presentation at an IP conference in Helsinki about how patent holdup exemplified a “Tragedy of the AntiCommons” as described by Heller in his recent book “Gridlock Economy”. In attendance at that conference was IP Professor from the University of Helsinki and he asked if I would consider joining their doctoral program, as I had the multi-disciplinary back-ground they were trying to promote at the University. Having this become increasingly intrigued about the prospect of solving these problems, I applied and was duly accepted.

The research for this doctoral program commenced with an analysis of several conventional solutions to the problems. These included; applying the essential facilities doctrine, expanding the patent misuse doctrine, FRAND enforcement, patent pools, and redefining patent rights according to the works of Lemley and Shapiro. The conclusion drawn from this research was that none of those proposed solutions provided a solution which was both workable and equitable. To the contrary it became clear that the leading solution which dramatically redefined patent rights, created an even greater inequity because it intentionally limited royalties of all patent owners to a fraction of their true value their property. Obviously, this meant that a new solution would have to be sought.

The search for a new solution began with detailed review of the history of property rights. This review was initiated in the expectation that it would reveal the underlying historical justification for the absolute property rights which formed the foundation of intellectual property law. This review included an examination of Locke's theory of property which provided a compelling argument in favour of the absolute property rights, which were the initial foundations of intellectual property law. The problem was that its unrealistic and overtly optimistic assumption did not conform to my knowledge of history. To rebut this theory that I decided to spend some

time researching and thinking about the evolution of property rights, which eventually resulted in the theory of the property continuum which is included in this thesis.

After gaining a better understanding of the history of property, I returned to my search for the solution to "patent holdup" and "legal attrition". Disillusioned with the prospect of finding solutions in competition law or intellectual property law, I started research in other bodies of law. Specifically researching within bodies of laws which were covered in examples of an anti-commons tragedy mentioned by Heller. The expectation being that those bodies of law must contain a solution to the problem identified by Heller. This led me to natural resource law and eventually to water law, where I discovered the "correlated rights doctrine", which can be defined as follows:

'When multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the total value of that property and the law should protect that share from being appropriated by others, including other owners and users.'

I immediately recognised that this was an equitable and pragmatic solution to the problems of both patent holdup and patent holdout. Moreover, it was an ideal solution because it could be used to *replace rather than restrict* the historically intellectual property foundations which established that all inventors should be granted relatively absolute and exclusive rights to their inventions. The premise being that while the old foundation is perfectly reasonable when a single inventor has created a standalone invention. Its reasonableness could be challenged when an invention is the result of multiple inventors contribute their individual innovations to an integrated technological product. This challenge resting on the correlated nature of modern "integrated innovation", wherein every contribution to an integrated technological product relies on the innovative contributions of others to create value, and the licensing behaviour of individual contributors will have a spill over effect their fellow contributors.

Because research on this doctrine and its application in integrated innovation disputes displayed such promise, a decision was taken not yield to the temptation of theoretical equivocation, but rather write a thesis which embraced an unapologetic proposition in favour of applying correlated intellectual property rights in intellectual property law. A decision which would need to be defended by providing a comprehensive assessment of the theoretical, legal and practical implications of applying the correlative rights doctrine in intellectual property law. This comprehensive analysis being essential to the acceptance of a thesis which challenges the dominant views on the subject and seeks to establish a new foundation for intellectual property law.

The supervisor for this thesis were Professor Petri Kuoppamäki and Professor Taina Pihlajarinne, the pre-examiners were Dr. Ilkka Rahnasto and Ph.D. Rosa Maria Ballardini. PH.D. Ballardini also acted as my opponent during the defence of this thesis. I would like to sincerely thank each of them for their efforts to see this thesis through to its defence. Given the contrarian nature of the thesis, the economic and sociology content contained within it, its global analysis and its length, these efforts were certainly beyond what is usually required from these roles.

I would like to especially thank Professor Samuli Miettinen for his advice on EU law and Professor Sabine Frerichs for her advice on Law and Society. Their advice provided a valuable contribution to the contents of this thesis. Special thanks also go to Professor Tuomas Mylly who expressed early and continued support for the work include in this thesis.

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Also deserving of appreciation are Beata, Katri, Partick, Juha, and Toni who were members of the study group on competition law which I had the privilege of belonging to when I first started on this project. Even though our views may have diverged as to the benefits of competition law, they have continued to be a source of encouragement and inspiration.

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This thesis is dedicated to my children, Elsa and Henri. Hopefully its completion will help to ensure that their future creative endeavours will be properly rewarded.

Helsinki, 19 October 2018.

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1. Introduction and Thesis Structure

Not only do we live in an age of astonishing technological advances, we live in an age where those advances appear to be occurring at an ever-increasing pace. However, this increased pace is not the only, nor the most significant change which makes these advances different from earlier advances. The most significant change has to do with the fact that the overwhelming majority of the recent advances are now derived from the integration of sequential innovations, provided by a multitude of innovators, which is built on existing technologies, to create ever more complex technological products. This inherently integrated method of innovation which results in correlated intellectual properties, stands in stark contrast to historical and common perception of innovation, which presumes that technological advances were and are primarily generated by a single innovator developing their own standalone intellectual properties.¹

Evidence of the predominately inherently integrated innovation process is provided in the reports of western patent authorities, which reveal that the majority of patent applications received over the last ten years relate to industries where there are established standardisation organizations dedicated to ensuring that new innovations are compatible with existing innovations.² This trend towards an integrated innovation process has been recognised by legal scholars, who refer to the external effects which are inherently in standardized technological products.³ Obviously when industries are subject to these sorts of standardization procedures, it must be regarded as self-evident that their new innovations must be built upon earlier innovation which have previously been adopted as part of the standard, for if they were not they would not be compliant with those standards.

There are several observations about this change and the challenges to the validity of historical perceptions they represent which are worth noting. The first of these is that this change is the direct result of greater educational opportunities, which have led to exponential increase in the number of educated innovators. This increase in educated innovators representing a global phenomenon which has been driven by dramatic rises in educational standards in almost every country in the world. However, it is not just that there are more people receiving education, another significant factor is that the education itself is often much more specialized. Evidence of this can be found in the dramatic rise of post graduate degrees in the various sciences. What this means is that; not only are there more people capable of innovation,

¹ While the term "intellectual property" is broadly referred to as a work or invention that is the result of creativity, this thesis will use the term primarily as it relates to "patented inventions".

² See e.g.: U.S. Patent Office, *Patent Report 2012*, which indicate that over 65% of the patents applied for in 2012, were in technological fields which have established technological standards. Similar results can be found in the records of patent authority in Europe and Japan.

³ See for example: Ilkka Rahmasto, *Intellectual Property Rights, External Effects, and Anti-Trust Law*, (Oxford University Press, 2003) passim.

they are more capable of complex innovations. A trend which is certain to continue into the foreseeable future.

From an industrial prospective this increase in the supply of highly educated and specialized innovators has been critical for the advancement of technologies used to create high technology products. This is because these technologies have become so complex that no single person, nor individual company, can entirely master the technology in a manner which would ensure the same level of innovative advancements. This is also why these high-tech industries represent the best examples of how advances are derived from; the integration of sequential innovations, provided by multitudes of innovators which build on existing technologies, to created ever more complex technological products.

Further while high tech industries may have been the main beneficiaries of this educational expansion, evidence of the impact of more and better educated innovators is visible in almost all industries. Whether it is in mining or bicycle manufacturing; new machines, new processes and new materials are also revolutionising almost every industry. Even in industries where there is the possibility that the technology can be understood by a single person or company, this does not take away from the fact that the innovations coming into those industries are also being generated by a multitude of innovators, who inevitably are building on existing technological advance. Regardless of the nature of the industry there can be no question that the rise of a more and better educated innovators will continue, and no industry will be immune from the innovative competition which they provide.

The next observation of note is that this shift in the innovation process represents an evolutionary rather than a revolutionary change. Although it is commonly assumed that integrated intellectual property is a recent trend, there is an abundance of anecdotal evidence which suggest otherwise. From a chronological prospective some of that evidence would be as follows;

- A driving force behind the industrial revolution was the ability to generate reliable power from a steam engine. However, while the first reliable stream engine was built and patented by James Watt in 1765, the first patent granted for a steam engine was issued in 1698 to Thomas Savery and it has long been recognised that Watt built his engine on the work of a subsequent inventor by the name of Thomas Newcomen, who patented his "Atmospheric Steam Engine" in 1712.⁴
- While the Wright Brothers may have been the first inventors to achieve a motorized flight in 1903, there can be no disputing the fact that their Wright Flyer was built upon a multitude of earlier inventions provided by a multitude of innovators which they improved upon to achieve their remarkable success.⁵
- From a more modern context it ought to be obvious that Apple is not the standalone inventor of the mobile phone and that the advanced innovations incorporated into its iPhones are built upon a multitude of earlier inventions by a multitude of earlier innovators.

Once it is accepted that inherently integrated innovation has always being part of an evolutionary innovation process, the strategic question becomes: when did it become the

⁴ Robert Henry Thurston, *A History of the Growth of the Steam-engine*, (D. Appleton 1878)

⁵ Glenn Curtiss and the Wright Patent Battle, in U.S. Centennial of Flight (Centennial of Flight Commission), 2003, http://www.centennialofflight.net/essay/Wright_Bros/Patent_Battles/WR12.htm retrieved April 21,2015

dominant method of invention? To answer this question involves finding answers to two additional questions; the first seeking to clarify what makes an innovation into an invention and the second seeking to clarify how long that innovation maintains its categorization as an invention. Conveniently, answers to both these questions have already been addressed provided by existing intellectual property law. What most intellectual property laws require is that the invention be; new, useful and none obvious. And when those criteria are met the innovation is provided with twenty years of patent protection. These answers can be used to conclude that any invention which builds on inventions which are less than twenty years old is a "correlated inventions", whereas any inventions which are unrelated to earlier inventions or built on inventions which are more than twenty years old are "standalone inventions". As the determining factor in this form of differentiation is effectively the speed at which the follow-on innovations are developed; it can be further concluded that the period in which the innovation process evolved from; being predominately a standalone process to a predominantly inherently integrated process, would be a time in which there was a surge in innovation. While it is entirely possible that this may have happened during the industrial revolution; it is also entirely possible that this may have reverted to a predominately standalone process during subsequent years. However even if this change was reversed during the 19th century; it is clear that towards the end of the 20th century correlated innovations would have once again represented the majority of all new innovations.

This transition is particularly evident in the field of information technology, where Moore's law predicted that the number of transistors in a dense integrated circuit has and will doubled approximately every two years.⁶ Two other fields experience similar if not faster rates of growth include the mobile telecom industry, and the manufacturing automation industry, both of which are in no small part also reliant on recent innovations in the information technology for their exponential growth. Obviously, such rates of growth would not be possible if new innovations relied on twenty-year-old technology rather than more recent advances.

The recognition that it was an evolutionary change is important because a slow evolutionary change can often go unnoticed for a long time, which can will allow a legal system maintaining the status quo long after changes should have been adopted. Which is to suggest that if the changes were of a more rapid or revolutionary in nature; they would be immediately recognised, which would allow for appropriate adjustments to be made on a timely basis. Absent this simultaneous evolution, it is almost inevitable that a disconnect between the subject of the law and law will emerge. In the worst case that conflict will frustrate the objective justifications of the law rendering its enforcement; unproductive, unreasonable and unjust. To a certain extent this is what has happened in intellectual property law. Because the process changes were evolutionary, the legal system appeared to maintain the status quo until the resulting decisions became so unreasonable and unjust, that their unreasonableness and unjustness could no longer be ignored.

This observation denoting the proposition that recent changes to the application of intellectual property law have been driven by a desire to avoid unreasonable and unjust outcomes, rather than a practical recognition that there was been a fundamental shift in the innovation process which required a proactive change in the law. Furthermore, it can be argued

⁶ Gordon E. Moore, *Cramming more components onto integrated circuits*, Electronics Magazine, 4, (1965). Retrieved 2015-06-10.

that this treatment of the symptom rather than the cause, provides a coherent explanation for the ongoing confusion and resistance to recent changes in intellectual property law. For when the law is changed without a foundational justification, those changes will frequently be incongruent and therefore appear somewhat arbitrary. To the extent that they are incongruent or viewed as arbitrary, this will inevitably detract from the authority of the legal system.

Which is not to suggest that the reactive changes adopted to avoid injustice are not necessary or desirable. After all this is the most common manner in which judges change the law. As Judge Posner points out in his paper on judicial methods;

'judges are usually too busy trying to find the most practical and just solutions to the cases, to spend much time deliberating over theory.'⁷

Judge Posner further suggesting the development of the theories related to fundamental changes in the underlying subjects and "extracting" a doctrine from those judicial decisions is the task of legal scholars. He suggests it is their task because unlike judges, legal scholars have the luxury of time and resources to dedicate to developing the theory, in particular they have the opportunity expand their research well beyond the specifics of individual cases in the search for a more comprehensive understanding of the situation.⁸ In the best circumstances this research will allow those scholars to identify the underlying changes which has driven the reactive change in the law, and uncover established doctrines in parallel bodies of law which can be migrated to or "extracted" from existing case law. This is the best circumstances because that research provides a logical justification for changing the law and a legally tested doctrine which can be proactively applied in a congruent manner to future cases. Obviously finding logical justification and legally tested doctrines contributes immeasurable to both the clarity and authority of the legal system.

Hopefully this thesis will be recognized as an example of that kind of scholarly research. For not only does it; recognises a fundamental change in the innovative process which compels a reassessment of how intellectual property law is applied, it has also uncovered an established doctrine which can be extracted from recent intellectual property case law, that has been used to settle correlated property right disputes in other bodies of law for over one hundred years. The application of which would facilitate an increase in the congruency of adjudication of future case, as it would establish a doctrinal foundation to those decisions. This doctrine is called the correlative rights doctrine and representing a legal principle which holds that;

*'When multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the total value of that property and the law should protect that share from being appropriated by others, including other owners and users.'*⁹

Obviously accepting Judge Posner's definition of scholarly work creates its own requirements with respect the content and structure of this thesis. This is particularly true as the concept of applying the correlated rights doctrine in intellectual property law is not being pursued in other

⁷ Richard A. Posner, *Legal Scholarship Today*, 115 *Harvard Law Review* 1314, (Harvard PressMar2002) 1316

⁸ *Id.* at 1316

⁹ This description of the correlated rights doctrine represents this author's assessment of legal intention of the correlated rights doctrine as it is currently applied in various bodies of law.

legal scholarship, and because its adoption would represent a fundamental change to the foundations of intellectual property law. As such this thesis will include a thorough examination the current nature and underlying rational of intellectual property, an explanation of the origins of doctrine, why it was appropriate to apply it in intellectual property law, how it could be applied, an analysis of its compatibility with existing law and an explanation of its benefits, and extensive examination of the relevant case law.

As part of this examination, chapter two will more clearly define the research problem and thesis objective.

Chapter three will fully describe the anticipated solutions which were considered and rejected before the correlated rights doctrine was discovered.

Chapter four will analyses of the justifications for intellectual property law and an assessment of whether those justifications are still valid given recent of changes in the innovation process. This analysis is essential as the free intellectual property movement indicates that there are many who no longer accept that any intellectual property rights are justified.¹⁰ What will be shown in this chapter is that while the justification remain valid for correlated innovations, their objective can only be achieved when some form of correlated conditionality is applied by the courts.

Chapter five will include a comprehensive analysis of the economic illusions and realities underlying intellectual property. The chapter is provided because the correlated rights foundation for intellectual property law is not compatible with the neo-classical economic theories which tend to support "absolutist intellectual property rights". Absolutist intellectual property rights being defined herein; as an absolute right to exclude others from the use of the intellectual property.¹¹ As such without challenging those theories and providing new ones it could be difficult to get the judiciary to accept this new foundation.

Chapter six will focus on providing a detailed history of the evolution of the correlated rights doctrine in the two bodies of law where it is currently applied. These bodies of law being the water law and oil and gas law. As well as introducing the correlated rights doctrine the history will show that there are significant similarities between the ownership, integrate nature of these underlying properties, as well as the historical perception of the rights which should apply to all three forms of property. The goal is to show that given these similarities, it is entirely appropriate to apply the correlated rights doctrine in intellectual property law.

Chapter seven will re-examine the problems which arise in intellectual property by providing an historical example of how they arose in the aviation industry. The purpose of this chapter is to provide a real-life example of issues facing intellectual property owners, and how they are

¹⁰ This advocacy in favour of correlated intellectual property rights is clearly distinct from, and diametrically opposed to, the free intellectual property movement which seeks the abolition of intellectual property protection in order to facilitate the free and unrestricted use of innovations. While the free property movement is based on presumptions that innovators can monetize their inventions through first to market competition, the advocacy of correlative intellectual property recognises that there still remains a valid justification for the protection of intellectual property rights, and that without appropriate legal protection the creative efforts of most innovators will be appropriated by others to the detriment of those innovators and society as a whole.

¹¹ To the extent that absolute/exclusive intellectual property rights were the foundation for intellectual property law, it is this doctrine which will be juxtapositioned against the possibility of adopting a new correlated rights foundation. Today this absolute right is typically provided when there is a general rule which grants automatic injunctive relief whenever an infringement is found. This automatic right being founded on a presumptive provision of injunctive relief, unless exceptional circumstances negate this presumption.

resolved. The method that they were resolved in this industry being consistent with the application of the correlated rights doctrine, even if the doctrine itself was not used.

Chapter eight will begin by analysing the comments the senior judges have made with respect to the short comings in the current treatment of intellectual property. It will continue by explaining how these problems can be addressed by divided intellectual properties into four categories, including two correlated categories. This will be followed by a construction of a correlated rights definition which is proposed by this thesis for correlated intellectual properties. This construction will also include a summary of the rules would likely need to be utilised to facilitate an application of the correlated rights doctrine.

Chapter nine can be considered the core of the thesis, as included in it will be a description and analysis of the two most important precedent setting decisions which altered the perception of how patent law was to be applied to correlated properties on either side of the Atlantic: *eBay v MercExchange*¹² and *the Orange Book case*.¹³ The analysis will focus on why those cases represent milestones on the path to correlated intellectual property rights, why they do not fully conform to the application of correlated rights This will be followed by an analysis of how these milestone, as well as other cases; represent both steps on the path backwards and forward for ensuring correlated property rights are more fully applied in intellectual property law. This analysis will address the two separate but related issues which are: the availability injunctive relief and what determines running royalties in the event that injunctive relief is not granted.

Chapter ten will analysis of the compatibility of the correlated rights doctrine with existing global intellectual property legislation. Because it would be impractical to examine the legislation in every country, it will focus on the international legislation as well as a selection of countries. This analysis will be done by attempting to establish if there are any provisions in those international or national legislation which would prevent the application of the rules needed to apply the doctrine. What this analysis will show is that the correlative rights doctrine is both consistent with a strict reading of the legislation, and essential to the attaining the stated objective goals inherent in the preponderance of the legislation which was reviewed.¹⁴ All of which means that the application of the correlative rights doctrine is not only permitted but may be required by the legislative intent included therein.

Chapter eleven will examine the legal obligations included in hierarchical superior European Union laws which may; require courts to apply the correlative rights doctrine when adjudicating any integrated property disputes, and mandate that such disputes should be adjudicated in timely manner. These requirements coming from the Treaty on the Function of Europe and European Charter of Fundamental Rights. While this analysis has yet to be tested in the courts, there does appear to be a high probability that an application of the doctrine or something very similar to it, is required by these hierarchal superior European Union laws.

Chapter twelve seeks find recent literature which can be interpreted as supporting an application of the correlated rights. Because this is a unique proposal; this implied support is derived from articles which either rebut patent holdup solutions and/or focus on the issue of

¹² *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006)

¹³ The Court of Appeal Karlsruhe, *orange Book Standard*, No 7 O 94/o2 6 May 2009

¹⁴ While this review indicated that correlated rights doctrine was potentially compatible with all of the legislation reviewed, some legislation appeared to have an incompatible intent, the most notable of which was the Chinese legislation.

patent holdout, rather than articles which directly address correlated intellectual property rights.

Chapter thirteen will depart from the doctrinal method, to provide a discussion of the practical implication for societies of either negating or applying correlative intellectual property rights. Specifically, this chapter will address the larger economic and social consequences of not protecting the correlative rights of innovators, and how that will impact the structure of technological industries. While this non-doctrinal method is generally used to motivate legislator to change legislation, it is included here because it needs to be understood why applying the correlative rights doctrine is not only a legal imperative, but also an economic and moral imperative.

Chapter fourteen provides an analysis of the evolution of property rights over time along a theoretical property continuum. This continuum begins in the stone age and moves through various phases and stages ending with an explanation of how correlated property rights could become the dominate form of property rights in the not too distant future. While the creation of new property rights continuum might be regarded as a disproportionate response to the challenge of convincing readers that there is a need to alter how intellectual property laws are applied, this author would argue that its creation and inclusion are not only justified but necessary. The first reason why it is necessary is that it indicates that despite short term prospective which tend to consume much legal thinking, property rights and the laws that support them are not a static and have changed significantly over the millenniums. The second reason is because it indicates that there is a historical path which is moving towards correlated property rights. The third because it provides a much-needed mechanism to allow the dating and validating competing legal doctrines. And finally, it is needed because it provides a link between social structure and property rights, which can be used to determine the nature of society which will exist based upon what kind of property rights are provided to that society. Thus, making the choice of property rights a defining aspect of social change.

The conclusion of the thesis will provide a brief description of the rational for the various chapters in the thesis, and a short list of the some of the most significant advantages of applying the correlated rights doctrine in intellectual property law.

2. Defining the Research Problem and Thesis Objective

During the last decade there has been dramatic shift in the definition of intellectual property rights. Whereas it was earlier accepted the intellectual property owners had an absolute or exclusive right to determine who could use their properties and how much they would charge for that use;¹⁵ in recent years the courts have severely curtailed those rights by either redefining them or imposing competition law constraints on the exercise of those rights. For the most part this change has been driven by a desire to prevent what is referred to as "patent holdup".¹⁶

Patent holdup can be defined as a method under which intellectual property owners coerce manufacturers of technological products which rely on intellectual properties contributed by a variety of intellectual property owners, to pay royalties in significantly in excess of the value contributed by their intellectual property to the technological product. This is achieved by threatening to take or taking injunctive action against technology manufactures, unless a license which included that excessive licensing demands is agreed. This abuse is well documented by

¹⁵ See e.g.: Adam Mossoff, *Exclusion and Exclusive Use in Patent Law*, 322 (Harvard Journal of Law and Technology, Spring 2009) at 8 "Wherein there is a description of a change in theory of patents from one focused on the right to use, to one focused on the right to exclude, which indicates the presumptive right to exclude is still theoretically absolute and implying this is why blocking patents persist as an issue. Citing: John R. Allison & Mark A. Lemley, *The (Unnoticed) Demise of the Doctrine of Equivalents*, 59 STAN. L. REV. 955, 958 n.10 (2007) ("[T]he patent right is a negative one—the right to exclude others from making, using, selling, offering to sell, or importing the patented invention."); Dan L. Burk patent gives an inventor the right to exclude others from making, using, and selling the invention for a limited term"; Shubha Ghosh, *Exclusivity—The Roadblock to Democracy?*, 50 ST. LOUIS U. L.J. 799, 806 (2006) ("Patents, for example, grant a strong right to exclude in exchange for complete disclosure of the invention to the public."); F. Scott & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1597–99 (2003), at 1665 ("[T]he patent right to exclude has been regarded as a nearly absolute property rule"); Christopher A. Cotropia, *Patent Law Viewed Through an Evidentiary Lens: The "Suggestion Test" as a Rule of Evidence*, 2006 BYU L. REV. 1517, 1523 ("At the core of the United States patent system is the right to exclude."); Rebecca S. Eisenberg, *Intellectual Property at the Public Private Divide: The Case of Large-Scale DNA Sequencing*, 3 U. CHI. L. SCH. ROUNDTABLE 557, 562 (1996) ("A Kieff & Troy A. Paredes, *The Basics Matter: At the Periphery of Intellectual Property*, 73 GEO. WASH. L. REV. 174, 198 (2004) at 198 ("[P]atents only give a right to exclude. The right to use is derived from sources external to IP law."); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 861 n.96 (1990) ("[A] patent grant is a right to exclude, not an affirmative right to practice an invention. . . . a subservient patent can prevent a dominant patent holder from practicing the particular improved feature claimed in the subservient patent because a patent grant is a right to exclude, not an affirmative right to practice an invention") Robert P. Merges, *One Hundred Years of Solicitude: Intellectual Property Law, 1900–2000*, 88 CAL. L. REV. 2187, 2222 (2000) ("necessitated by the existence of blocking patents," because otherwise an overlapping patent would necessarily result in an illegitimate restriction of another property owner's "affirmative right to actually carry into practice a particular invention."); and John F. Duffy, *Rethinking the Prospect Theory of Patents*, 71 U. CHI. L. REV. 439, 456–7 (2004) ("The formulation of the patent right in purely negative terms facilitates the granting of multiple overlapping or 'blocking' patents, each with the power to exclude the other.") Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1239182

¹⁶ See e.g.: Mark Lemley and Carl Shapiro, *Patent holdup and Royalty Stacking*, (Tex. L. Rev., Vol 85, 2007). Available at <https://ssrn.com/abstract=923468> (herein after; Lemley and Shapiro, *Patent Holdup and Royalty Stacking*, (2007)); Chien, Colleen V. and Lemley, Mark A., *Patent Holdup, the ITC, and the Public Interest* (July 2, 2012). Cornell Law Review, 2012; Stanford Public Law Working Paper No. 2022168. Available at <https://ssrn.com/abstract=2022168>; Cotter, Thomas F., *Patent Holdup, Patent Remedies, and Antitrust Responses* (December 10, 2008). Journal of Corporation Law, Vol. 34, No. 1151, 2009; Minnesota Legal Studies Research Paper No. 08-39. Available at <https://ssrn.com/abstract=1273293>;

legal scholars, with the abuser being described as a "patent trolls".¹⁷ From the technology manufacturer's perspective, and prior to the definitional changes in intellectual property rights, this abusive behaviour could be responded to in one of five ways.

The first approach is to cease making the integrated technological product. This would be a rather extreme response that would likely only be considered if there was such limited potential profitability in manufacturing the integrated technological product, that the extra costs of responding to excessive demands would negate those profits. Such an action would represent an inequitable outcome because it would deprive both the manufacturer and its customers of market opportunities.

The second approach is to cease using of the intellectual property by removing it from the integrated technological product and if necessary replacing it with an alternative intellectual property. While such a measure would likely be the most appropriate response to excessive licensing demands, it may be that the intellectual property is so inherently integrated into the technological product that can be neither removed or replaced. This certainly be the case if the disputed intellectual property represents a "standard essential property", which is essential to the functioning and interoperability of the technological product.

Assuming manufacturers cannot find a "work around", the third approach would be to simply acquiesce to the excessive licensing demands, pay the excessive royalties and continue to manufacture in full compliance with the historical interpretation of intellectual property law which grants owners with an exclusive right to authorise the use of their intellectual property. If this approach is adopted it would by definition mean that some of profits that the manufacturer would have otherwise earned, would effectively have been appropriated by the abusive intellectual property owner. If the manufacturer did not contribute intellectual property to the integrated technological product, it would be their operating profits which were being appropriated. If they did contribute intellectual property to the integrated technological product, it would effectively be the rewards that they would have otherwise earned on their contributions which would be appropriated. While both appropriations would be inequitable, the latter is perhaps more egregious as it unjustly provides one intellectual property owner with an excessive royalty rate, by denying another intellectual property owner from receiving a proper reward for their intellectual property.

The fourth approach which can be taken by the manufacturer is to attempt to delay the order of injunctive relief for as long as possible, by engaging in strategic legal tactics which will prevent the case being decided for years. Included in these strategic legal tactics would be actions like requesting excessive and intrusive discovery procedures, challenging the validity of the intellectual property and denying the infringement of the intellectual property. When it is fairly clear that disputed intellectual property is both valid and infringed, such tactics can be defined as "legal attrition".¹⁸ If and when the courts tolerate this behaviour, not only can the manufacturer delay an order for injunctive relief, they may actually force the intellectual

¹⁷ See generally for e.g.: Mello, J. P., *Technology Licensing and Patent Trolls* BUJ Sci. & Tech. L. 12 (2006): 388.; Golden, John M. *Patent Trolls and Patent Remedies*. Tex. L. Rev. 85 (2006), Wild, Joff, *The real inventors of the term "patent troll" revealed*, (*Intellectual Asset Management Magazine*. August 22, 2008); 2111.; Mayergoyz, Anna. *Lessons from Europe on How to Tame US Patent Trolls*. Cornell Int'l LJ42 (2009): at 241; Layne-Farrar, Anne, and Klaus M. Schmidt, *Licensing Complementary Patents: "Patent Trolls," Market Structure, and "Excessive" Royalties*, *Berkeley Technology Law Journal* 25.2 (2010): at 1121-1143.

¹⁸ A more common legal expression for "legal attrition" would be "patent holdout", however this term does not as clearly convey the behaviour being pursued.

property owner to abandon their excessive demands because they do not have the financial or legal resources to sustain protracted litigation. Although such behaviour would usually be condemned as an abuse of the legal process, the courts appear to have justified allowing such behaviour because they recognise that providing the quick injunctive relief would result in an inequitable outcome.

The fifth approach that a manufacturer could take, would be to challenge the right of the intellectual property owner to injunctive relief in the courts and change the conditions under which injunctive relief was provided. In pursuing this effort, it could be expected that they would look to intellectual property scholars for arguments which they could use to avoid patent holdup. Two of the earliest and most prominent scholars who provided an effective argument in opposition to the practice of patent hold up were Mark Lemley and Carl Shapiro. While there were many others which also contributed to this opposition, it was the ideas contained in their highly cited initial work, which have been adopted as the principle rationale for opposing patent holdup. Indeed, it was these ideas which formed the foundation for the changes in intellectual property law which effectively redefined intellectual property rights.¹⁹

Paradoxically while the success of these last two options have greatly reduced the potential of patent owners to engage in patent holdup, it can be argued that these solutions have resulted in a situation which is even more unjust than that which resulted from patent holdup. This because both solutions have not only prevented intellectual property owners from charging royalties in excess of the value that their intellectual property contribution provides to a technological product, they have also forced intellectual property owners to accept royalties which are significantly below the value of that their intellectual properties contribute to their relevant technological products.

The fourth approach results in a significant undervaluation of intellectual property because once the courts allowed multi-nation technology manufacturers to use legal attrition to avoid excessive licensing demands, that precedent could be used by those same multi-nationals to reduce or even avoid reasonable licensing offers made by other intellectual property owners, who had also contributed to the integrated technological product. The effectiveness of this approach is based on the same considerations and may be more effective than it was for an intellectual property owner which is engaging in patent holdup. For unlike patent trolls who anticipate the possibility of a lengthy legal battle, most small intellectual property owners, who merely want to charge a rate which reflects the value of their intellectual property contributions to a technological product, have such limited financial and legal resources that they cannot realistically consider engaging in protracted litigation. It should be noted that many of these small intellectual property providers can be categorized as “non-practicing entities” in that they provide intellectual property to complex technological products, but do not manufacture the product themselves. However just because an intellectual property owner doesn’t manufacture a technological product does not mean that they are a patent troll. Although many scholarly articles fail to differentiate between non-practicing entities and patent trolls,²⁰ non-practicing

¹⁹ This fifth option has also been referred to as part of a “patent holdout” strategy.

²⁰ See e.g.: Stefania Fusco, TRIPS Non-Discrimination Principle: Are Alice and Biliski Really the End of NPES? *24 Tex. Intell. Prop. L.J.* 131, 136. (2016) “Generally speaking NPE’s also known as “patent trolls”; Ted Sichelman, Commercializing Patents, 62 STAN. L. REV. 341, 368 (2010) (“... nonpracticing entities (NPEs)—namely, firms that do not commercialize their patented inventions and perform little to no R & D ... tend to exploit litigation and licensing market defects to extract unwarranted rents from commercializers ...”)

entities would only be patent trolls if they were attempting to charge users more than the value provided by their patent.

Without sufficient financial and legal resources, the best option for a small intellectual owner is to accept whatever the licensing counteroffer made by the multinational manufacturer, regardless of how much it undervalues their contribution. To do otherwise would be to take the risk of bankrupting their themselves before the litigation is concluded. Further even if they are not bankrupted by the litigation expense and they win their case with the relatively limited legal resources at their disposal; this may still represent an inequitable outcome. For without the royalties that they ought to have received during the litigation period, it is unlikely that they would have been able to maintain their inventive efforts, and this would have effectively eliminated their long run participation in the industry. That is of course assuming the multinational manufacturer is willing to make a counteroffer. If they are not, those under resourced intellectual property owners have no options and will simply have to accept that any value their intellectual property provides to the integrated technological product will be appropriated by multi-national manufacturers and exit the industry. Although legal attrition is less well documented, it has garnered more attention lately in articles referring to "patent holdout"²¹.

The fifth approach results in a significant undervaluation of intellectual property because the ideas promoted by Lemley and Shapiro to prevent patent holdup completely overturned the traditional market concept of intellectual property rights. Effectively changed the licensing negotiation from ones where the intellectual property owner is considered a monopoly supplier of their intellectual properties to an open market, to one where technology companies are considered monopoly buyers of intellectual properties and the intellectual property owners are the open market suppliers. The difference between these two approaches is that a profit maximising monopolist is able to license their intellectual property at a price which reflects the value which the buyer places on that property and sets their royalty rates accordingly, whereas an open markets supplier of intellectual property is forced to accept whatever rate is set by a monopolistic buyer. This difference is significant; and reflects the stated objective of Lemley and Shapiro to drive down royalty rates to 20% of the value which an intellectual property provides to a technological product.²²

To the extent such a dramatic reversal in the intellectual property rights has been allowed or adopted by the courts, indicates just how determined the judiciary has been about avoiding the inequitable outcomes of patent holdup. Although it is clear that a solution to the problem patent holdup needed to be developed, it would seem to be illogical and entirely inappropriate to prevent one inequity by facilitating an even greater inequity. That second inequity representing a situation which prevents intellectual property owners from being able to charge royalties which are consistent with the value that their properties provide to a technological product and instead being forced to accept royalty rates which represent a tiny fraction of their true value. This inequity being reinforce by the fact that in no other property market is would it be

²¹ See for example: Lichtman, Douglas, *Patent Holdouts and the Standard-Setting Process* (U Chicago Law and Economics, Olin Working Paper No. 292., May 16, 2006); George, Gavin D. *What Is Hiding in the Bushes-eBay's Effect on Holdout Behavior in Patent Thickets*. Mich. Telecom. & Tech. L. Rev. 13 (2006): 557.; Chien, Colleen V., *'Holding Up' and 'Holding Out'*. Santa Clara Univ. Legal Studies Research Paper No. 19-13. (August 30, 2013); Epstein, Richard A. and Noroozi, Kayvan B., *Why Incentives for 'Patent Holdout' Threaten to Dismantle FRAND, and Why It Matters* (Berkeley Technology Law Journal, February 7, 2017) (Herein after: Epstein and Noroozi, *Threaten to Dismantle FRAND*, 2017)

²² Lemley and Shapiro, *Patent Holdup and Royalty Stacking*, (2007) at 1996

considered equitable for the legal system to enforce a practice which requires property owners to sell their property for 20% of its true value.

Given this paradox the question which was researched for this thesis was, can method for addressing the issue of patent holdup be found which would prevent patent holdup, while at the same time allowing intellectual property owners to charge royalties are equivalent to the value that their properties provide to a technological product. As could be expected this research initially began with review of alternative solutions which were anticipated in the works of existing legal scholarship on intellectual property rights, including the solution proposed by Lemley and Shapiro. However, as none of these solutions appeared to provide a practical or equitable solution, it was expanded to other fields of law where similar property ownership structures could be observed. More specifically this research was focused on finding out how property rights were treated when there existed multiple owners of what could be considered an inherently integrated single property. This research resulted in a discover of the "correlative rights doctrine" which was applied in both Californian groundwater law and U.S. oil and gas law.

In essence this correlated rights doctrine can be considered the legal embodiment of the equitable principle of proportionality, which has been previously advocated from a normative prospective by other legal scholars,²³ and as mentioned earlier can be defined as follows:

'When multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the total value of that property and the law should protect that share from being appropriated by others, including other owners and users.'

After researching how this doctrine was applied in those two bodies of law, it was recognised that it could be equally applicable in intellectual property law, when multiple intellectual property owners contribute their properties to a single integrated technological product. This discovery of this doctrine and the recognition that it could achieve the desire equitable result in intellectual property law provided a clear objective or problem to be addressed by the thesis. That objective was to provide an academically convincing argument for the application of the correlated rights doctrine in intellectual property law.

What makes this thesis different from a normative work is that by identifying an actual doctrine which has been used in other bodies of law, the discussion can be moved from one that describes what the law ought to be, to one which focuses the potential application of a functioning foundational principle. Thus, providing a new legal foundation which is much harder to be dismissed, than is the case with respect to a purely normative argument.²⁴

²³ See for example: Robert P. Merges *Justifying Intellectual Property Rights*, (Harvard University Press, 2011)) "an IP right ought to be proportional to the contribution of a creative work. This idea, which I call "the proportionality principle," is in my view central to IP law; it is perhaps the major midlevel principle" p7

²⁴ David H. Blankfein-Tabachnich, *Intellectual Property Doctrine and Midlevel Principles*, 1315 (Cal. L. Rev., 2013) " A close study of seminal IP cases has demonstrated through counterexamples that midlevel principles are not uniformly embodied in the positive law of IP. eBay and Ethicon and Mayo and Myriad confirm the strong overarching thesis of this Essay: midlevel principles are not rigorously constitutive of the positive law of IP. Correspondingly, midlevel principles cannot systematically serve to explain, describe, or predict case outcomes." p1359

3. Anticipated Legal Remedies

Given the early and widely acknowledge acceptance of the "patent holdup" problem, it is entirely understandable the proposed legal remedies to intellectual property problems would focus on tactics for preventing patent trolls from coercing users to pay excessive licensing fees. Indeed, when the work on this thesis was commenced that was the initial focus of the analysis, with an anticipation that if that first problem could be solved, the courts would no longer tolerate patent holdout; the scope of which was not fully recognised. For the most part these anticipated legal remedies to patent holdup were promoting the following five options: an application of the essential facilities doctrine, expanding the concept of patent abuse, compulsory patent pooling, and fair reasonable and non-discriminatory (FRAND) enforcement and changing the definition of intellectual property rights. An explanation of each of these options and the reasons they were not pursued is provide as follows.

3.1 The Essential Facilities Doctrine

The basic premise of an essential facility doctrine is that where access to a facility is which is needed to compete in market is unreasonably withheld for anticompetitive reasons, the courts may oblige the owner of the facility to grant access. The proposition that this might provide legal remedy the problem of patent holdup, was suggested and scorned in a variety of legal articles.²⁵ The primary objection being it represented a direct contradiction to the general principles that a firm has no obligation to deal with its competitors and is the very opposite of exclusive intellectual property rights which give the IP holders the right to exclude others from making, using, offering for sale, or selling their invention without authorization.

The doctrine itself has its origins in the U.S., in particular in section 2 of the Sherman Act which prohibits monopolization or attempts to monopolize. One of the first and likely most well know case involving a facility found to be essential was the Supreme Court's 1912 *Terminal*

²⁵ See generally for e.g.: Opi, Sergio Baches, The Application of the Essential Facilities Doctrine to Intellectual Property Licensing in the European Union and the United States: Are Intellectual Property Rights Still Sacrosanct. "Fordham Intell. Prop. Media & Ent. LJ 11 (2000): 409.; James Turney, Defining the Limits of the EU Essential Facilities Doctrine on Intellectual Property Rights: The Primacy of Securing Optimal Innovation Nw. J. Tech. & Intell. Prop. 3 (2004): 179; Gitter, Donna M. The Conflict in the European Community Between Competition Law and Intellectual Property Rights: A Call for Legislative Clarification of the Essential Facilities Doctrine. American Business Law Journal 40.2 (2002): 217-300.; Reiko Aoki and John Small, Compulsory licensing of technology and the essential facilities doctrine, (Information and Economic Policy, Mar. 2004); Robert Pitofsky, Donna Patterson and Jonathan Hooks, The Essential Facilities Doctrine under U.S. Antitrust Law Antitrust Law Journal 70 (2002) 443; Bavasso, Essential Facilities in A refusal to deal can indeed constitute an abuse of dominant position under Article 82 EC Law: the Rise of an "Epithet" and the Consolidation of a Doctrine in the Communications Sector in Eeckhout and Tridimas ed. Yearbook of European Law (Oxford University Press, 2003) chapt 2; Marquardt, Paul D., and Mark Leddy. The Essential Facilities Doctrine and Intellectual Property Rights: A Response to Pitofsky, Patterson, and Hooks. Antitrust Law Journal 70.3 (2003): 847-873. Ritter, Cyril. Refusal to Deal and Essential Facilities: Does Intellectual Property Require Special Deference Compared to Tangible Property. World Competition 28 (2005): 281., Cotter, Thomas F. The Essential Facilities Doctrine. Antitrust law and economics (2010): 157 Kaur, Supreet, Interface Between Intellectual Property and Competition Law: Essential Facilities Doctrine, Electronic Copy available at: <http://ssrn.com/abstract=18002450>

Railroad decision.²⁶ In this case a group of railroad companies formed an Association which controlled all railway bridges and switching yards into and out of St. Louis. The Terminal Railroad Association contract ensured that only those companies belonging to the associations were allowed to use the facilities, unless there was a unanimous vote allowing the use of a non-member. The next closest point to cross the Mississippi River was some 250 miles downstream giving the Association a huge economic and business advantage over its competitors. The Supreme Court held that the combined ownership of all the facilities violated the Sherman Act prohibition on monopolization, however rather than losing the operating efficiencies by breaking up the Association, it ordered the Association to provide access to its facilities to non-members on the same terms as it did to members.

Another Supreme Court decision associated with the development of the Essential Facilities Doctrine is the *Associated Press* case.²⁷ That case involved a news cooperative whose membership included approximately 1,200 daily papers. Members gathered and shared news from their staff with the other members providing significant economies of scale in reporting. The problem with this arrangement was that Associated Press's bylaws prohibited members from selling news to anyone other than members and gave members the veto on membership applications from non-members.²⁸ The Supreme Court found that the Associated Press bylaws violated the Sherman Act by restricting membership and withholding use of its copyrighted but essential news service, because competitors could not reasonably operate without having access to it.

While both *Terminal Railroads* and *Associated Press* involved concerted group activities the *Otter Tail Power* case did not.²⁹ In *Otter Tail* the defendant was a power generator that also had sole control of the electrical grid in its region and was refusing to distribute or wheel electricity to a municipality from a third-party power generator. This unilateral action was found by the Supreme Court to be in violation of the Sherman Act because it "used its monopoly power in the towns in its service area to foreclose competition or gain a competitive advantage, or to destroy a competitor all in violation of anti-trust laws"³⁰. To remedy the situation the Court ordered Otter Tail to wheel third party power on their grid, however it left the terms of access, to regulatory authorities.

While these and other essential facility based decisions have revolved around the essential nature of the facility, it has also been applied to facilities that may not be absolutely essential. In *Lorain Journal* it found that a local newspaper violated the Sherman Act by refusing to accept advertising from companies that advertised with the local radio station.³¹ In *Aspen Highlands Skiing Corp* the Tenth Circuit Court of appeal applied the essential facilities doctrine in to a ski resort's decision to eliminate a competitor from a long standing "multi-area" ski pass.³² The pass gave skiers the flexibility to visit, on a discounted pass, any of three resorts owned by the defendant as well as the one owed by the competitor. The court described the "multi-area" ski pass as an essential facility because without it, its main competitor may be forced out of business. The Supreme Court upheld the finding of antitrust liability for refusal to deal but

²⁶ *United States v. Terminal Railroad Ass'n* 224 U.S. 383 (1912)

²⁷ *Associated Press v. United States*, 326 U.S. 1 (1945)

²⁸ Anti-Common aspects for non-members

²⁹ *Otter Tail Power Co. V. United States*, 410 U.S. 366, 377-79 (1973)

³⁰ *Id.* At 337

³¹ *Lorain Journal Co. V. United States*, 342 U.S. 143, 146-49 (1951)

³² *Aspen Highlands Skiing Corp. V. Aspen Skiing Co.*, 738 F.2d 1509, 1520-1521 (10th Cir. 1984)

characterised the determination under the more general rules of the Sherman Act and emphasising the lack of a commercial justification for not dealing.³³

Subsequent to these cases the Supreme Court had regularly applied the Essential Facility Doctrine usually without ever explicitly acknowledging it. In fact, the first time that the term was used by the Supreme Court was in 1999 in an *AT&T* case.³⁴

While it appeared that the essential facility doctrine was becoming a reliable doctrine, all that changed in the *Trinko*.³⁵ In *Trinko*, the question was to what extent is an incumbent monopolist in the telecommunications market, required to provide access to its networks to a new entrant. Under the Telecommunications Act of 1996, Verizon was supposed to share its network with its competitors. It was also obliged to grant competitors access to its operating support system which they needed in order to fill their customer orders. In 1999 many competitors complained to the FCC and the New York Public Service Commission that Verizon were not meeting their obligations under the Act, because many of their orders were not being filled. After an investigation Verizon entered into a consent under which it paid substantial fines and agreed to fill the orders. After entering into the consent decree, the Law Offices of Curtis V. Trinko filed a complaint on behalf of competitor customers claiming that Verizon was only filling rival orders after if it had filled those for its own local phone network costumers and this was intended to discourage customers from becoming customers of a competitive local exchange carrier. The firm sought damages and injunctive relief under section 2 of the Sherman Act, suggesting that Verizon was monopolize or attempt to monopolize the local phone network.

The Supreme Court analysed *Trinko* under classical anti-trust concepts but ruled somewhat differently from previous cases. Referring to *Grinnell Corp*³⁶ it pointed out that it is settled law that this offence requires not only the possession of monopoly power; but a wilful effort to maintain that monopoly, as distinguished from growth or development as a consequence of superior product, business acumen, or historical accident. It then went on to explain that the Court did not view the possession of a monopoly created by establishing an infrastructure that is uniquely suited to customers as unlawful, but rather an important element of the free market system. The ruling went on to discuss the difficulties that arise when firms are compelled to provide access to their infrastructure to competitors. First forcing firms to their facilities might lessen the incentive to invest in new facilities. Second compelling access requires the courts to assume the role of central planner and identify the price and terms of the compelled access. A role the Court is not best suited to perform. And third forming a relationship between one or two companies could result in horizontal collusion a per se violation of the Sherman Act. Based on these criteria the court reaffirmed the general principle that 'the Sherman Act does not restrict the long-recognised right of a trader or manufacturer to engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal'³⁷. In the view of the Court the key aspect missing from this case was clear anticompetitive malice. The undemanding test for determining the lack of malice in the case was the proposition that because Verizon's facility sharing was compulsory it 'shed no light on what motivated its refusal to deal-upon whether its regulatory lapses were prompted not by competitive zeal but

³³ Aspen Skiing Co. V. Aspen Highlands Skiing Corp., 472 U.S. 585, 611 (1985)

³⁴ AT&T v. Iowa Utils. Bd. 525 U.S. 366 (1999)

³⁵ Verizon Communications v Law Offices of Curtis and Trinko, 540 U.S. 398 (2004)

³⁶ United States v. Grinnell Corp., 384 U.S. 563, 570-571, 86 S.Ct 1698. 16 L.Ed.2d 778 (1996)

³⁷ United States v. Colgate & Co., 250 U.S. 300, 307 (1919)

by anticompetitive malice.¹³⁸ This proof of malice requirement significantly increases the burden of proof on the plaintiff. Whereas previously it was sufficient to show an unjustified anti-competitive effect, the *Trinko* ruling now obliges plaintiff to prove of actual anti-competitive intent.

With regards to the essential facility doctrine the Court said that although they have never recognized the doctrine, they refused to either adopt or repudiate it. Instead the Court stated that even if the doctrine were viable it would not apply to the case because access is available as a result of regulatory mandated measures and an indispensable part of the doctrine is denial of access. Specifically, they suggest that where a state or federal agency has the effective power to compel sharing essential facilities, claims should be denied. The rationale behind this view appears to be that the courts cannot add any value to a process that is already subject to alternative regulation. A rather peculiar view considering that the justice system is specifically mandated to act as a check or balance on the legislative and executive offices.

The effect of *Trinko* on the essential facility doctrine cannot be denied and are not likely to be over turned, as all nine Supreme Court Justices either joined or concurred with the ruling. While the ruling did not repudiate the doctrine, it certainly weakened it by increasing the hurdles that had to be overcome to successfully win a case. Prior to *Trinko* an essential facility claim had to prove: '(1) the control of the essential facility by a monopolist; (2) a competitor's inability to practically or reasonably to duplicate the essential facility (3) the denial of the use of the facility to the competitor; and (4) the feasibility of providing the facility to competition.'¹³⁹ *Trinko* first of all eliminated the possibility of a claim in a regulated industry; where a regulatory authority has the power to force involuntary access. Second it puts the burden of proof on the plaintiff to show that the facility owner intent in taking exclusive actions, where for the sole purpose of monopolising or attempting to monopolize. Given that most exclusive actions have both a current and long-term benefit to the facility holder this represents a rather difficult, if not insurmountable, obstacle to a successful essential facility action in the U.S. courts.

In Europe the essential facilities doctrine flows from the European Court of Justice ("ECJ") development of the general duty to deal. This stands in stark contrast to the American principals but has been pursued mainly in order to open up the internal markets of EU members to competition from competitors located in other EU members states which was the main rationale for the establishment of the European Community.

Like in the U.S.; the first de facto applications of the essential facilities doctrine began with cases involving refusal to supply. One of the first and most prominent of these was *Commercial Solvents*.⁴⁰ *Commercial Solvents* was the dominant supplier of certain chemicals used in the production of anti-tuberculosis drugs. It decided to commence manufacturing of the drugs itself and subsequently refused to supply a former customer, now a competitor, with the necessary chemicals. The competitor was unable to secure the necessary chemical from any other source and as such *Commercial Solvents* was eliminating competition in a downstream market as a result of withholding its product from the market. The ECJ found that such behaviour was unlawful as it represented an abuse of its dominant position, within the meaning of the Article 82 of the European Union Treaty.

³⁸ Id.

³⁹ *MCI Comm. Corp v. AT&T*, 708 F.2nd 1081, 1132-33 (7th Cir. 1983)

⁴⁰ Cases 6, and 7/73 *Commercial Solvents v Commission* (1974) ECR 223

Four year later in *United Brands*⁴¹ the de facto essential facilities doctrine was reiterated in another finding of abuse of a dominate position, even though there were alternative suppliers. In that case United Brands refused to supply banana ripeners/distributors with bananas, because they had begun promoting rival brands. This is important decision because it broadened that scope of the de facto essential facilities doctrine from something to prevent monopolization, to one which could be used against a general refusal to deal.

The actual essential facilities doctrine was first enunciated by the Competition Commission in *B&I Line Plc v Sealink Harbours*.⁴² This case concerned a port, and the business practices used by the port manager to restrict competition for the benefit of its own shipping operations from the port. In it Sealink had modified the sailing schedule of its own ferry operations to interfere with the loading and unloading operation of its competitor B&I Holdings which also ran ferries out of the port. In its decision the Commission held that providing access to B&I Holdings on less favourable terms to than it did to its own service was in breach of Article 82. It also for the first time defined an essential facility as “a facility or infrastructure without access to which competitors cannot provide service to their customers”.⁴³ In a similar case the Commission imposed interim measures against Sealink forcing it to provide reasonable, non-discriminatory access to the port to Sea Containers which wanted to introduce a new ferry service.⁴⁴ It is worth noting that in both cases there was not an absolute refusal of access, but rather unfair access conditions which triggered the actions, and that the essential facility argument could be used for both existing and new entrants.

While there are several essential facilities cases⁴⁵ (refusal to deal) in EU Law which demonstrated promise in terms of pursuing a solution to patent holdup using an application of the essential facilities doctrine, included in the cases which were reviewed was one case which led to the decision to abandon that pursuit. That case was the 2007 decision which upheld a competition decision involving the anti-competitive practices by *Microsoft*.⁴⁶

The competition decision upheld in that case can be represented as an extension of an earlier investigations of Microsoft's licensing practices. This earlier investigation, which was done in conjunction with the U.S. Anti-trust authorities. It focused on Microsoft's practice of requiring computer manufactures to obtain a license for using their operating system on all the computers they manufactured, regardless of whether they actually used the system on all the computers that the manufactured. The complaint was filed by Novell, who argued that because manufactures were being forced to purchase Microsoft licenses for all computers, this unfairly restricted the market for their operating system. Before the Commission opened formal proceeding, Microsoft provided undertakings to both the US and European competition

⁴¹ Case 27/76 *United Brands Company and United Brands Continental BV v. Commission* (1978) ECR 207

⁴² Commission Decision *B&I/Sealink* (1992) IV/34.174 [41]

⁴³ *Id.*, para 14.

⁴⁴ Commission Decision *Sea Containers/Stena Sealink* (1994) OJ L 15/8

⁴⁵ See for example: Case L[243/41 *Hugin v Commission*, [1978] 1 CMLR; Case T-69/89, *RTE v Commission* [1991] 4 CMLR 586; Case 241/91 *RTE and ITP v Commission* [1995] ECR I.743; Case T-70/89, *British Broadcasting Corporations v Commission* [1991] ECR II-535; Case 238/87, *Volvo Ab v. Erik Veng*, [1989] 4 CMLR 122; Case 53/87 *CICRA v Renault* [1988] ECR 6039; Case 184/01 R *IMS Health v Commission* [2001] ECR II-3193; Case C-7/97 *Oscar Bronner GmbH v Media Print GmbH* [1998] ERC I-7791; 8 Commission Decision Port of Rødby 94/119/EC, 1994 O.J. (L 055) 52; Case T-504/93 *Tierce Ladbroke SA v. Commission*, 1997 E.C.R. II-923

⁴⁶ Case T-201/04, *Microsoft v Commission*

authorities which was intended to resolve the dispute.⁴⁷ In that undertaking Microsoft committed to; not enter into licence contracts with a duration of more than one year, not impose minimum commitments licensees and not to use per processor clauses any longer.⁴⁸

Despite this earlier investigation of their licensing practices, three years later Microsoft once again came under investigation by the Competition Commission, when Sun Microsystems filed a complaint alleging that Microsoft was continuing to abuse of its dominant position by was refusing to supply it with interoperability information necessary to make their software compatible with Microsoft's operating system. In February of 2000 the Commission launched an investigation into this complaint, which was expanded from simply examining the lack of interoperability, to also investigating the bundling of Windows Media Player with their operating system.⁴⁹

Four years later the Commission finally issued its decision.⁵⁰ In that decision the Commission found that Microsoft behaviour represented two separate abuses. The first abuse related to its failure to supply its competitors with interoperability information. Finding that 'Microsoft's refusal to supply has the consequence of stifling innovation in the impacted market and of diminishing consumers choices by locking them into a homogeneous Microsoft solution,'⁵¹ and therefore violated article 82 of the Treaty.⁵² The second abuse related to the tying of its media player with its operation system. This was considered an abuse as 'tying of WMP allows Microsoft to anti-competitively expand its position in adjacent media-related software markets and weaken effective competition to the eventual detriment of consumers.'⁵³ Given this abusive behaviour the Commission ordered Microsoft to provide the its competitors with the interoperability information they need on a timely basis and to provide their operation system without the inclusion of the media player, in addition to imposing a EUR 497.2 million fine.

Two months after the decision was made Microsoft indicated it intended to comply with the decision, stating that it would make available intellectual property licenses to its protocol technology on FRAND terms. The next month they appealed the to the EU Court of First instance to annul the Decision and to suspend the penalty imposed on them by the Commission. Eventually in 2007 Microsoft lost its appeal, the EUR 497 million fine was upheld, as were the requirements to provide interoperability information and unbundling of the media player.⁵⁴

It is only after this decision that Microsoft fully complied with the earlier Commission decision and the lack of compliance led to an additional EUR 899 million fine by the Commission. Although Microsoft appealed against this additional fine, it too was upheld in 2012.

Although the anti-competitive behaviour of Microsoft was eventually curtailed by these proceedings, there were several aspects of this case that led to the decision to abandon pursuing an application of the essential facilities doctrine to solve the problems of patent holdup and patent holdout.

⁴⁷ Commission Press Release, FOLLOWING AN UNDERTAKING BY MICROSOFT TO CHANGE ITS LICENSING PRACTICES, THE EUROPEAN COMMISSION SUSPENDS ITS ACTION FOR BREACH OF THE COMPETITION RULES. (July 16, 1994)

⁴⁸ *Id.*

⁴⁹ Comp/C-3/37.792

⁵⁰ Commission Decision C (2004) 900 (24.03.2004)

⁵¹ *Id.* [782]

⁵² *Id.* [784]

⁵³ *Id.* [982]

⁵⁴ Case T-201/04 *Microsoft Corp v Commission* [2004] ECR II-03601

The first aspect was that the time and effort which was required to use these procedures to address the problem. If one just looks at the time it took from when Sun Microsystems filed the complaint to when the court up held the decision, it took ten years. If one counts the time from the earlier investigation of Microsoft's licensing practices till the final decision, it was almost twenty years. Obviously, any solution that requires ten to twenty years to resolve must be considered justice severely delayed, if not denied.

The second was the reliance that the injured party had to put on the competition authorities. While the Commission did eventually decide to investigate Sun Microsystems' complaint, it took them three years before they announced a decision to do so, which would suggest that they could just as easily have decided not to do so.

The third was the fact that the decision did not compensate Sun Microsystems or Real Player for the abusive behaviour that they had endured. The fines being imposed the Commission going to the EU.

The fourth there was the issue of effectiveness of the decision. While Microsoft did eventually comply with the decision, that compliance was to a certain extent contrived and did not fully comply with the intent of the decision. As part of complying with the order to provide interoperability information, Microsoft charged a royalty to the competitors for using their intellectual property. Which would be reasonable, except that the competitors complained the royalty rates charged were excessive and therefore defeated the purpose.⁵⁵ In compliance with the order to unbundle the media player, Microsoft began selling their operating system without their media player, however they continued to sell the same system with the media player for nearly the same price as the standalone operating system. As could be anticipated few consumers choose to buy the unbundled operating system.⁵⁶ This lack of effectiveness led to the conclusion that regardless of how dedicated and efficient a government regulatory authority was to ensure competitive markets, private entrepreneurs would always seek and often find ways around their regulations.

The fifth was that it was hard to see how the Commission could possibly acquire and provide the resources which would be needed resolve thousands of individual intellectual property disputes if it could not issue 'per se' regulations and had to look at each case according to the "rule of reason".

Finally, it appeared that the competition authorities had yet resolve how to define reasonable royalties or even the right criteria for that definition, which mean they could not solve the underlying problem which led to patent holdup and patent holdout.

As such this case, in conjunction with the American Supreme Court's decidedly unfriendly view on the potential application of the essential facilities doctrine, led not only to a search for another solution, but a search for another solution outside the confines of competition law.

3.2 Patent Misuse

While it could be assumed that the most obvious body of law to search for a solution to patent holdup and patent holdout would be patent law, the fact that these problems arose in that body of law would appear to indicate that there were no clear answers to problems

⁵⁵ IP/05/1215 Competition: Commission appoints Trustee to advise on Microsoft's compliance with 2004 Decision (Oct 5th, 2005)

⁵⁶ The New York Times, Microsoft and Europe Agree Software Remedy Has Failed (April 25, 2006)

available in its current configuration and interpretation. That said, the doctrine of patent misuse in patent law, certainly could have the potential of resolving the problem of patent holdup, assuming the definition of patent abuse can be expanded to include the act of demanding excessive licensing royalties by threatening to seek injunctive relief. The possibility has been considered in number of articles focused on finding solutions to the patent holdup problem.⁵⁷

To understand why the definition of patent abuse needed to be expanded to use patent misuse as a solution, it needs to be understood that patent misuse is an affirmative defence which can be used only as a shield against patent abuse. Which is to suggest that it can only be invoked, after a claim of patent abuse has been made. As such if the definition of patent abuse does not include the act of demanding excessive royalties based on the threat of seeking injunctive relief, it cannot be used.

The doctrine of patent misuse was established by a series of the US supreme Court cases. The first of which was the 1917 case of *Motion Picture Patents Co. v. Universal Film Manufacturing Corp.*⁵⁸ In that case Court was asked to decide whether the patentee could include licensing conditions which stated that their projectors only be used with their films. The Court determined that these terms were invalid because:

'a film is obviously not any part of the invention of the patent in suit; because it is an attempt, without statutory warrant, to continue the patent monopoly in this particular character of film after it has expired, and because to enforce it would be to create a monopoly in the manufacture and use of moving picture films, wholly outside of the patent in suit and of the patent law as we have interpreted it.'⁵⁹

The next case in the series was *Carbice Corp. of America v. American Patents Development Corp.*⁶⁰ In it the Court held that an owner of a patent on refrigerated transportation could not use that patent to force licensees to purchase ice from them. In a third case *Morton Salt Co. v. G.S. Suppiger Co.*,⁶¹ the owner of a patent for a machine which was used to add salt to cans, was held to be abusing their patent by forcing the licensee to purchase salt exclusively from them. Taken together these cases established the first rule of patent abuse, for which a defence of patent misuse could be utilised. The basic rule being that they could not use their patents force the purchase of other products as this would allow them 'to acquire a monopoly not embraced in the patent'⁶²

A similar logic was evident in the second rule of patent abuse, for which a defence of patent misuse could be utilised. That rule was established in the 1964 case of *Brulotte v. Thys Co.*,⁶³

⁵⁷ See e.g.: Lemley, Mark A., and Kimberly A. Moore. Ending abuse of patent continuations. BUL rev. 84 (2004): 63.; Geradin, Damien, and Miguel Rato. Can standard-setting lead to exploitative abuse? A dissonant view on patent hold-up, royalty stacking and the meaning of FRAND.' European Competition Journal 3.1 (2007): 101-161. (Herein after: Damien and Rato, Exploitive Abuse, 2007); Lemley, Mark A. 'Ten things to do about patent holdup of standards (and one not to).' BCL Rev. 48 (2007): 149. Lemley, Mark A. The economic irrationality of the patent misuse doctrine. California Law Review (1990): 1599-1632.; Mueller, Janice M. Patent misuse through the capture of industry standards.' Berkeley Tech. LJ 17 (2002): 623. Hoerner, Robert J. The decline (and fall?) of the patent misuse doctrine in the federal circuit. Antitrust Law Journal 69.3 (2002): 669-685.

⁵⁸ *Motion Picture Patents Co. v. Universal Film Manufacturing Corp.*, 243 U.S. 502 (1917)

⁵⁹ *Id.* [518]

⁶⁰ *Carbice Corp. of America v. American Patents Development Corp.*, 283 U.S. 27 (1931)

⁶¹ *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488 (1942)

⁶² *Transparent-Wrap Mach. Corp. v. Stokes & Smith Co.*, 329 U.S. 637, 643 (1947).

⁶³ *Brulotte v. Thys Co.*, 379 U.S. 29 (1964)

where in the patentee was found to be requiring licensing terms which would by contract de facto extend the life of his patent protection. In that case the Court stated that while a patent,

'empowers the owner to exact royalties as high as he can negotiate with the leverage of that monopoly. But to use that leverage to project those royalty payments beyond the life of the patent is analogous to an effort to enlarge the monopoly of the patent by tying the sale or use of the patented article to the purchase or use of unpatented ones.'⁶⁴

While these two Supreme Court rules focused on patent misuse whenever patentee were attempting to broaden the physical or temporal scope of the patent grant, other forms of patent abuse which could be defended with a claim of patent misuse, were identified by courts of appeal and the competition authorities. These included; tying one patent to another, where the tying patent has market power,⁶⁵ prohibiting a licensee from making a competitive product,⁶⁶ and demanding the veto power over subsequent licenses the licensee may want to conclude.⁶⁷

This broadening of the use had a parallel in broadening of the definition of the anti-trust violations during the same time period. Indeed, it could be argued that; the broadening was a direct result of the broadening of antitrust violations, as patent abuse was becoming more and more a patent based law for defining anti-competitive behaviour of patent owners. As such it was hardly surprisingly that when the anti-trust laws were so successfully eviscerated by Robert Bork in the *Anti-Trust Paradox*⁶⁸ that it also had an impact on the application of the patent misuse doctrine.

Two years after the publication of *The Anti-Trust Paradox* in what would appear to a major reversal of direction the Supreme court introduced the first major limitation on the application of the patent misuse doctrine in *Dawson Chem. Co. v. Rohm & Haas Co.*⁶⁹ To understand the case a quick mention must be made of a previous case of *Monsanto Co. v. Rohm & Haas Co.*⁷⁰ In that case Rohm & Haas successfully challenged to validity of Monsanto's patent on a herbicide called Propanil by proving that *Monsanto* had deceived the patent office when applying for the patent. This meant the Propanil became an unpatented product which chemical companies were free to manufacture and sell without the need of licence, which contributed to a rapid use. Somewhat surprisingly in 1974, *Rohm & Haas* were granted a process patent for the application of Propanil. The Abstract of that patent reading as follows:

'Disclosed is a method for selectively inhibiting growth of undesirable plants in an area containing growing undesirable plants in an established crop, which comprises applying to said area 3,4~dichloropropionanilide at a rate of application which inhibits growth of said undesirable plants and which does not adversely affect the growth of said established crop.'⁷¹

⁶⁴ *Id.* [33]

⁶⁵ *Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451, 461 (1992)

⁶⁶ *National Lockwasher Co. v. George K. Garrett Co.*, 137 F.2d 255 (3d Cir. 1943).

⁶⁷ *United States v. Krasnov*, 143 F. Supp. 184 (E.D. Pa. 1956), *aff'd per curiam*, 335 U.S. 5 (1957); *United States v. Besser Mfg. Co.*, 96 F. Supp. 304 (E.D. Mich. 1951), *aff'd*, 343 U.S. 444 (1952)

⁶⁸ Robert Bork *The Anti-Trust Paradox* (New York: Free Press, 1978)

⁶⁹ *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176 (1980)

⁷⁰ *Monsanto Co., v. Rohm & Haas Co.* 456 F.2d 592 (1972)

⁷¹ U.S. Patent No. 3,816,092

Rohm & Haas exploited this the process patent by manufacturing Propanil and selling it to farmers. It did not license the patent to the farmers, but they acquire an implied license to practice the process when they bought the Propanil from *Rohm & Haas*. *Rohm & Haas* also did not license the patent to other manufacturers like *Dawson*, which had been making and selling Propanil to farmers before *Rohm & Haas* received their process patent. *Rohm & Haas* sued *Dawson* for contributory infringement and active inducement of infringement, *Dawson* raised a defence of patent misuse, claiming that there had been misuse because *Rohm & Haas* had "tied" the sale of patent rights to the purchase of Propanil. Why *Dawson* did not pursue their own invalidity claim based on previous art regarding the application of Propanil is not known.

In deciding the case the Supreme Court held that the 'Respondent has not engaged in patent misuse, either by its method of selling Propanil or by its refusal to license others to sell that commodity.'⁷² Essentially what this meant was the market for Propanil which was previously competitive immediate became a monopoly held by *Rohm & Haas*. This directly contradiction earlier decisions which had held that attempting to monopolize an unpatented market by tying it to a patented product was an abuse of patent rights. Not only did this decision stand, it was codified by Congress in 1988 when it enacted additional limitation on the use of patent misuse in section 271 (d) of the Patent Act, by adding two additional exemptions (4) and (5) such that the section read as follows:

'No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent would constitute contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement; (4) refused to license or use any rights to the patent; or (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.'⁷³

Further limitations on the use of patent misuse were to follow. In *C.R. Bard, Inc. v. M3 Sys., Inc.*,⁷⁴ the appeals court ruled that ' Although the defence of patent misuse evolved to protect against 'wrongful' use of patents, the catalogue of practices labelled 'patent misuse' does not include a general notion of 'wrongful' use.'⁷⁵ In *Mallinckrodt, Inc. v. Medipart, Inc.*⁷⁶ the US Appeals Courts exempted conditional terms imposed during the period of patent protection from a claim of patent abuse that relate specifically to the use of the patented product.

⁷² 448 U.S. 176, 187-223

⁷³ 35 U.S. Code § 271 (d) [1988]

⁷⁴ *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, (Fed. Cir. 1998)

⁷⁵ *Id.* 1373

⁷⁶ *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992)

But perhaps the case which most clearly illustrated the limitation being put on the doctrine was the 2010 en banc decision in *Princo Corp. v. Int'l Trade Comm'n*.⁷⁷ The case itself was the last in a series of three appellate decisions of an initial ITC decision⁷⁸, the first two being the *Philips v. ITC*,⁷⁹ and the *Princo v. Int'l Trade Comm'n panel decision*.⁸⁰ In the initial ITC case Phillips filed suit at the ITC alleging that Princo was infringing their patented laser disc technology and was seeking an order preventing them from continuing to import the infringed products. A notable difference between this case and other infringement cases were that the allegedly infringed patents were part of a patent pool which included patents from Phillips, Sony, Ricoh and Taiyo Yuden. While *Princo* initially was paying royalties to the patent pool, when they ceased paying, Phillips brought suit.

Part of Princo's defence in this action involved an asserting of patent misuse. This misuse was based on the notion that because licenses from the patent pool included licenses for all the patents in the pool, the pool was effectively tying essential and non-essential licenses together and forcing them to buy the bundled package. Specifically, Princo alleged that because *Philips* was not willing to license their patent individually it was abusing its patent rights. In their decision the ITC held that Phillip's patents were unenforceable because Phillip's package licensing was a *per se* patent misuse.

Phillips appealed the ITC decision and in *Philips v. ITC* the Federal Circuit Court reversed, holding that the package license must be analysed under the rule of reason and could not be a *per se* decision. They further found that because the package of licenses did not require the licensee to use all the licenses in the package and they were free to use other intellectual properties which competed with the properties in the package, it was not an effort to exploit market power.⁸¹ The abuse of market power being the issue which supposedly provided for a patent misuse defence. Of particular note in this decision was the propositions that; 'A package license is in effect a promise by the patentee not to sue his customer for infringing any patents on whatever technology the customer employs in making commercial use of the licensed patent'⁸² and that the rights the patentee include the right to 'charge whatever maximum amount a willing licensee is able to pay to practice the technology in question.'⁸³ On remand that ITC reversed its decision on patent misuse.

It was Princo's appeal of this decision which was considered in the *Princo Corp. v. Int'l Trade Comm'n* panel decision. In a unanimous decision the panel rejected Princo's theory of patent misuse based on the inclusion of non-essential patents in the licenses package, but in a split decision they held that; the lack of an ability to independently license a potentially competitive intellectual property which was included in the package, could provide a patent misuse defence. Stating that 'It is one thing to offer a pooled license to competing technologies; it is quite another to refuse to license the competing technologies on any other basis.'⁸⁴

⁷⁷ *Princo Corp. v. Int'l Trade Comm'n*, 616 F.3d 1318 (Fed. Cir. 2010)

⁷⁸ The 2004 ITC Decision was issued on August 27, 2004. Copies of a redacted version of the decision is available as part of Pub. No. 3686 on the ITC website(www.usitc.gov).

⁷⁹ *U.S. Philips Corp. v. Int'l Trade Comm'n*, 424 F.3d 1179 (Fed. Cir. 2005).

⁸⁰ *Princo Corp. v. Int'l Trade Comm'n*, 563 F.3d 1301 (Fed. Cir. 2009)

⁸¹ 424 F.3d 1179, 1189-92

⁸² *Id.* 1190

⁸³ *Id.* 1192

⁸⁴ 563 F.3d 1301, 1315

After this first appeals court's decision Phillip, Princo and the ITC filed for an *en banc* rehearing in which the court agreed to rule only on if an alleged agreement between Phillips and Sony to suppress the potential competitive intellectual property rose to the level of misuse as portrayed in the second part of panel decision. By unanimous decision the full Federal Circuit vacated and reversed that part of the panel decision which supported the defence of patent misuse. To do so the court narrowly construed the misuse defence, explaining that patent misuse is a 'judge-made doctrine that is in derogation of statutory patent rights against infringement, and noted the court had not applied the doctrine 'expansively.'⁸⁵ That patent misuse could only be used to defend against "patent leverage" whereby the patent owner uses its "patent power" to impose conditions on the use of the patent in suit that are 'not within the reach of the monopoly granted by the government.'⁸⁶ As part of this limitation for the court expanded the earlier freedom to engage in wrongful conduct by stated that, 'While proof of an antitrust violation shows that the patentee has committed wrongful conduct having anticompetitive effects, that does not establish misuse of the patent in suit unless the conduct in question restricts the use of that patent and does so in one of the specific ways that have been held to be outside the otherwise broad scope of the patent grant.'⁸⁷ This statement effectively separated patent misuse decisions from anti-trust decisions. Suggesting that while withholding the patent might be a breach of antitrust laws, it was within the reach of the patent monopoly granted by the government.

While this decision led many scholars to speculate on the death and decline of the patent misuse doctrine,⁸⁸ the reason why this decision resulted in abandoning patent misuse to solve the problem of patent holdup were not quite so dramatic. In fact, the reason was a result of two specific comments mentioned in the *Phillips v. ITC* decision. The first being that 'A package license is in effect a promise by the patentee not to sue his customer for infringing any patents on whatever technology the customer employs in making commercial use of the licensed patent'⁸⁹ and second being that that a patent owner had the right to 'charge whatever maximum amount a willing licensee is able to pay to practice the technology in question.'⁹⁰

The problem with the first comment as it relates to avoiding patent holdup is that; if the value of a patent is provided only by "the promise not to sue" than every patent has the same value, and owner of a single patent can assert the same value as the owner of a multitude of patents when they are integrated into a common technological product. After all the cost of having an injunction order barring a product from the market does not change regardless of how good a patent is or whether one or more intellectual properties are infringed. In essence this statement represents a "patent troll's charter" as it facilitates rather than limits patent holdup. The second statement was equally troublesome as potential licensees are willing to pay holdup prices to avoid injunctive relief.

Obviously to overcome these propositions the doctrine of patent misuse would have to be significantly expanded, and the statutory rules would likely have to be rewritten. It was hard to

⁸⁵ 616 F.3d 1318, 1321-22

⁸⁶ *Id.* 1331

⁸⁷ *Id.* 1329

⁸⁸ See e.g.: Goter, Phillip W. "Princo, Patent Pools, and the Risk of Foreclosure: A Framework for Assessing Misuse." Iowa L. Rev. 96 (2010): 699.; Barr, Camille. "License to Collude: Patent Pools, the Patent Misuse Doctrine, and Princo." UCDL Rev. 45 (2011): 629.; Frankel, Kenneth M., Patent Misuse After Federal Circuit's Princo Decision En Banc The AIPLA Antitrust News (February 2011); Geoffrey Oliver Princo v. International Trade Commission: Antitrust Law and the Patent Misuse Doctrine Part Company, Antitrust, Vol. 25, No. 2, (ABA, Spring 2011)

⁸⁹ 424 F.3d 1179, 1190

⁹⁰ *Id.* 1192

see how that would be possible, particularly considering the entrenched ideological positions against antitrust laws which were evident in the ruling.

3.3 FRAND Enforcement

The next body of law which was examined was contract law.⁹¹ This body was examined because of the FRAND licensing commitments to standard setting organizations (SSO's) are suggested to establish some form of contract. Assuming that the FRAND commitment establish some form of implied agreement,⁹² the crucial question which must be addressed is what do the individual terms; fair, reasonable and non-discriminatory mean. Clearly without a defined meaning, which there is not,⁹³ court ordered enforcement of FRAND commitments will provide different outcomes, depending on what which definition is used. While this may not be a problem if there were only minor differences between the definitions, it becomes a major issue if there are huge variation in the definitions used by various jurisdictions or the courts in those jurisdictions. As such the possibility of using FRAND enforcement as a solution to patent holdup and patent holdout, will depend on the extent of the differences in the definition, the most critical definition being the definition of "reasonable". If the range of differences are small it could be a feasible solution, if it is large it is not.

As to the range of differences, clearly there are legal argument which have be used support both the lowest and highest possible estimates of what would be reasonable. With respect to the lowest possible definition, the argument which would appear to be the most applicable would be the one provided by Lemley and Shapiro in their highly cited paper on *Patent Holdup and Royalty Stacking*.⁹⁴ The higher range argument becoming evident as a consequence of adopting the propositions defined in the *Phillips v. ITC* case.

Because Lemley and Shapiro's interpretation of the appropriate FRAND royalty rate will be thoroughly analysed below, at this point it will suffice to indicate that their analysis defined a

⁹¹ Layne-Farrar, Anne, A. Jorge Padilla, and Richard Schmalensee. *Pricing patents for licensing in standard-setting organizations: Making sense of FRAND commitments*. Antitrust Law Journal 74.3 (2007) 671-706.; Chappatte, Philippe. *FRAND commitments—the case for antitrust intervention*. European Competition Journal 5.2 (2009) 319-346.; Mariniello, Mario. *Fair, Reasonable and Non-Discriminatory (FRAND) terms: a challenge for competition authorities*. Journal of Competition Law and Economics 7.3 (2011) 523-541.; Damien and Rato, Exploitive Abuse, 2007 at 101-161.; Lemley, Mark A., and Carl Shapiro. *A simple approach to setting reasonable royalties for standard-essential patents*. Berkeley Tech. LJ 28 (2013) 1135. (Herein after Lemley and Shapiro, *Simple Approach*, 2013); Lemley and Shapiro, *Patent Holdup and Royalty Stacking* (2007) at 1991.

⁹² It should be noted that this can be considered an assumption as in most contract law establishment of an agreement require there must be a meeting of minds as to the terms of that agreement. If there is not common understanding of the terms there is no agreement. See for example RESTATEMENT (SECOND) OF CONTRACTS § 20. Effect of Misunderstanding: (1) There is no manifestation of mutual assent to an exchange if the parties attach materially different meanings to their manifestations and ... (b) each party knows or each party has reason to know the meaning attached by the other.

⁹³ Richard H. Stern, *What are Reasonable and Non-Discriminatory Terms for Licensing a Standard-essential patent?* European intellectual Property Review vol 37 Issue 9 2015; 'Courts before which such disputes occurred have criticised the vagueness of the term "RAND". In the *Ericsson Case* (*Ericsson Inc v D-Link Sys., Inc* No. 6:10-CV-473, 2013 WL 4046225 (E.D. Tex. August 6, 2013)) the court said the simple RAND requirement "offers no guidance over what is reasonable.". In the *Microsoft Case* (*Microsoft Corp. v. Motorola, Inc* No. C10-1823, 2013 WL 2111217 (W.D. Wash. April 6, 2013)) the court insisted that a 2007 version of the patent policy of of the Institute of Electrical and Engineers (IEEE) requiring RAAND licensing (at issue in that case) does not clarify "what constitutes a reasonable royalty or what other terms and conditions are reasonable or non-discriminatory for any license between interested parties." The Antitrust Division of the Department of Justice urged that standard-setting organisations should consider taking steps to "eliminate some of the ambiguity that requires difficult [after the fact] deciphering of the scope of a F/RAND commitment". (Speech at <http://www.justice.gov/atr/public/speeches/287855.pdf>)' at 549

⁹⁴ Lemley and Shapiro, *Patent Holdup and Royalty Stacking*, (2007) at 1996

benchmark rate for intellectual property which equivalent to 12% to 20% of the value which an intellectual property provides to a technological product.⁹⁵ Given the attention that this paper has received it would appear fair to suggest that any number of users would like to see this 20% of value contributed by the intellectual property be defined as a reasonable royalty rate. Thus, for the purposes of determining whether FRAND enforcement provides a solution this will be used as the bottom range of any potential variation in the definition of "reasonable".

With respect to a definition of the higher end of the reasonable range definition we return to the proposition included in *Phillip v. ITC*. It should be recalled that those propositions were, 1) a licensing agreement was merely a promise not to sue, and 2) that patent owners had the right to charge whatever maximum amount a licensee is able to pay. Using these propositions as a criterion to determine a reasonable the calculations would be as follows.

The value of the patent is not determined by the actual value contributed to the technological product by the intellectual property, but rather by the cost which associated with foreclosure from the market. For the purposes of this example that cost will be discounted by a factor which considers the number of owners which have contributed intellectual property to the technological product. The assumption being that if there ten contributors all of which must make a promise not to sue, one contributor should reasonably only be allowed to have one tenth of that calculated value or ten percent of annual profits of the infringer.

Attempting to compare this definition of reasonable royalties with those used by Lemley and Shapiro requires two additional calculation. First it must be assumed that the annual profits of an infringer are not only made up of the value attributed to the intellectual properties used, but also by the manufactures normal operating profits including marketing skills. Assuming that half of the profits are normal operating profits, this would suggest that this method of calculating reasonable royalties would mark up the value provided by the intellectual property by a factor of two. A further mark-up would also be required if the owner provided a lower pro-rata share of intellectual properties than the other owners. So, for example if the owner's single property was only one of one hundred patents used in the technological product and there were ten owners who contributed that multiplier would be ten. Taken together these two multipliers would indicate that using the *Phillip's v. ITC* propositions could easily result in a reasonable royalty valuation which was twenty times more than the actual value contributed by the intellectual property.

If this mark-up appears high consider that fact that the five patents owned by *NTP* in the *NTP v. Research in Motion* case represented less than one tenth of one percent of the total patents used by *Research in Motion* to make their Blackberry phones.⁹⁶ Yet the case resulted in *Research in Motion* having to pay *NTP* around 85% of their profits, which would be equivalent to about 1700 times the value which *NTP's* patents contributed,⁹⁷ (which is translates into 170,00% of the actual value contributed).

Using these two calculations it would appear that the definition of reasonable royalties is anywhere from 12% to 2000% of the actual value contributed by an intellectual property. Given this difference it is easy to understand why a solution involving FRAND enforcement was not pursued, as the gap between the lowest and highest definition appeared to be unbridgeable.

⁹⁵ Dramatically Redefining Intellectual Property Rights is discussed below

⁹⁶ *NTP, Inc. v. Research in Motion, Ltd.*, 270 F. Supp. 2d 751 - Dist. Court, ED Virginia 2003

⁹⁷ A more detailed analysis of this case is provided in Chapter 5 analysis of the Coase Theorem

Jumping ahead a little it can be mentioned that for the purpose of applying the correlated rights doctrine it is assumed that a "reasonable royalty" directly corresponds to the value that the intellectual property contributes to the technological product, with no discounts or mark ups.

3.4 Patent Pools

The next anticipated solution which was considered was the possibility of using patent pools to prevent both patent holdup and patent holdout. Although this solution had been anticipated in a number of works⁹⁸ it was quickly abandoned because of a perception that it would be either too utopian or too authoritarian.

The perception that it would be too utopian was based on the presumption that a voluntary patent pool would not be possible, as it would be impossible to get intellectual property owners to voluntarily agree on reasonable royalties for each of their intellectual property contributions to an integrated technological product. It should be noted that if such a system was possible, the problems of patent holdup and patent holdout would not exist, as both owners and users would be willing to charge and pay reasonable royalty rates calculated according to a universally accepted valuation method.

The perception that it would be too authoritarian was based on the presumption that the only way to structure a patent pool which included all the necessary patents required for an integrated technological product, would be if it was a compulsory patent pool. However, a compulsory patent pool would by its very nature take away the right of intellectual property owners to control their properties and transfer their control to a centralized administrative body. Such a draconian measure would also be fraught with other difficulties, the most significant of which would be the manner in which that administrative body determines the value of the intellectual property rights under their control.

Obviously if such a valuation would require the unanimous consent of all intellectual property owners who belong to the pool, it would be as unworkable as a voluntary pool. Alternatively, if patent users controlled the process or were able to veto any valuations it is almost inevitable that the administration would have to set royalty rates below the true value to the properties to get an agreement. If the pool participants are unable to agree on what constitutes a reasonable royalty, would the administrators of the pools simply dictate the terms or would there exist some sort of democratic voting mechanism? If it is an administrative decision how are the administrators selected and what are the limits of their discretion? If there is a voting mechanism who gets to vote and what constitutes a majority vote? Can pool participants appeal to the courts if they rate consider the rates too high or too low? Will competition authorities in all the effected countries accept the decisions of the patent pool, if the courts are excluded?

While it may be that questions like these can be resolved in a reasonable manner, the fact is that without a clear definition or at least some clear criteria for determining reasonable royalties the decisions are likely to be too arbitrary to provide a realistic solution.

⁹⁸ Shapiro, Carl. Navigating the patent thicket: Cross licenses, patent pools, and standard setting. *Innovation policy and the economy*1 (2000) 119-150 (Herein after: Shapiro, Navigating the Patent Thicket, (2000)); Merges, Robert P. Institutions for intellectual property transactions: the case of patent pools. University of California at Berkeley Working Paper (1999) (Herein after: Merges, The Case for Patent Pools (2000)): 1-74.; Lerner, Josh, and Jean Tirole. Efficient patent pools. *The American Economic Review* 94.3 (2004): 691-711; Jarkko Vourinen, Beyond Patent Pools: Patent Thickets, Transaction Costs, Self Regulation and Competition. (IPR University Centre, 2013)

3.5 Dramatically Redefining Intellectual Property Rights

The final anticipated solution to patent holdup which was rejected, involved proposed changes in the application of intellectual property law which dramatically altered the definition of intellectual property rights. These efforts were proposed by Lemley and Shapiro in their 2007 article: *'Patent Holdup and Royalty Stacking'*⁹⁹. While there can be no question that the objective of this article was to eliminate the inequity of patent holdup, this approach was rejected because it was perceived as going far beyond what was needed to achieve that objective. It was perceived to go far beyond what was necessary because; not only did it help to eliminate patent holdup, it also provided technology equipment manufacturers with a method for justifying royalty payments to intellectual property owners which are 20% of the value provided by an intellectual property to the technological product. Unlike the appropriation experienced through patent holdup; this appropriation of the 80% of the value is not an unintended consequence resulting from the abuse of patent laws, but rather intentional appropriation sanctioned by the courts which adopt its recommendations. Assuming; that such an appropriation is as inequitable as appropriation resulting from patent holdup, clearly the concepts and conclusions of this article need to be thoroughly analysed and rebutted. To facilitate this analysis and rebuttal, the first part of this subsection will provide a summary of the concepts and conclusions provided by Lemley and Shapiro. This will be followed by a second subsection which will challenging both the validity of the concepts and the conclusions of the authors.

3.5.1 Summary of Patent Holdup and Royalty Stacking

Any summary of the article must commence with a description of the five most significant assumptions included in it. These are as follows: 1) infringement of intellectual property are primarily the result of accidental infringement, because technological manufacturers are typically unaware of the existence of the intellectual property,¹⁰⁰ 2) only 40% of patents are in fact valid,¹⁰¹ 3) whenever patent owner charges a higher royalty this will increase manufacturing costs thereby reducing demand for the technological product,¹⁰² 4) royalty stacking leads to aggregate royalty rates which would be above those which would be charged by an integrated

⁹⁹ Lemley and Shapiro Patent Holdup and Royalty Stacking (2007)

¹⁰⁰ Lemley and Shapiro, *Patent Holdup and Royalty Stacking* " Consider a downstream firm that is approached by a patent holder who alleges that the downstream firm's product incorporates a feature that infringes its patent. Suppose, for now, that the downstream firm is already selling its product when it learns of the patent claim. This timing may result because the downstream firm designed its product to include a feature for which a patent application was subsequently published or a patent was subsequently issued, perhaps after the patent holder amended its initial claims to capture the downstream firm's product. Alternatively, the downstream firm may simply have been unaware at the time it designed its product that the patent now being asserted had been issued, or it may have been aware of the patent but had no reason to believe the patent owner would argue that the downstream firm's product infringed it. Further, in some cases, the patent holder can engage in strategic delay or concealment, knowing it will be in a stronger bargaining position once the downstream firm has already designed its product incorporating the patented feature." at 1995

¹⁰¹ *Id.* "Once one recognizes that patents are probabilistic, this proves to be a discouraging observation." at 2004; and " As we have explained elsewhere, patents are probabilistic rights. Nearly half of all litigated patents are invalidated, and many more are found not to be infringed" at 2019

¹⁰² *Id.* "Third, a complete analysis should account for the fact that higher running royalties will raise the downstream firm's marginal cost, which will raise its price and thus reduce its level of output. This is an example of the effect well known to economists under the label of "Cournot complements." The Cournot-complements effect arises when multiple input owners each charge more than marginal cost for their input, thereby raising the price of the downstream product and reducing sales of that product." at 2013

monopolist,¹⁰³ and 5) paying the royalty equivalent to the value which a patent provides to a technological product will result in decreased margins of technological companies and may drive those margins to zero in which case the manufacturer would cease production of the technological product.¹⁰⁴

Taken together what these assumptions provided a narrative in which: infringing technology manufactures are accidental victims, in situations where there are too many intellectual property owners, all of which are demanding excessive royalties for mostly invalid patents, that if paid would result in them exiting the market because their margins would be too low. In addition to these assumptions Lemley and Shapiro make two recommendations which enhance this narrative which can be described as follows: 1) it was counterproductive to negotiate with intellectual property owners before a property is incorporated into a technological product, as it would likely result in a royalty rate which is equivalent to the value provided by the intellectual property,¹⁰⁵ and 2), if intellectual property owners are unwilling to licence their properties at royalties which represent a significant discount to the value that they provide to a technological product, technology manufacturers should rely on the courts to determine a reasonable royalty according to hypothetical negotiations.¹⁰⁶

It is likely that the first of these recommendations was included to mitigate against a conclusion that their hypothetical negotiation construct is dependent on an accidental infringement and would also be applicable for intentional infringements. Regardless of the intent, what is clear is that it is rooted in an overall assumption that intellectual property owners do not deserve to be paid a royalty which is equivalent to the value which their properties provide to a technological product. An overall assumption which guides the second recommendation and provides the methodology and justification for its hypothetical negotiation construct proposed by Lemley and Shapiro which is detrimental to the intellectual property owners.

With respect to the actual method for calculating reasonable royalties, while included in the article are several economic variables which are suggested should be taken under consideration when engaging in hypothetical negotiations, there are only three that form the foundation for

¹⁰³ *Id.* "Together, these problems cause prices to be higher than would be set by an integrated monopolist who owned all of the patents and sold the downstream product." at 2014.

¹⁰⁴ *Id.* "To put it bluntly, if the downstream firm is paying royalties to many other patent holders, its margin is reduced, ... Second, and related, some limits on the aggregate royalty burden arise because of the constraint that the downstream firm's margin cannot be driven below 0. ... " at 2012

¹⁰⁵ *Id.* "If the downstream firm's threat in the early negotiations is to design its product to avoid using the patented feature, then the negotiated royalty rate will equal the patent holder's share of the value associated with that feature." at 2004

¹⁰⁶ *Id.* " Instead, the downstream firm will pursue a version of the Litigate strategy, with the overcharges already discussed. In this case, early knowledge of the patent provides no benefit whatsoever to the downstream firm" at 2005 and "The patent statute provides that a patentee can recover its lost profits from infringement, if it can prove them, but is always entitled to no less than a reasonable royalty. Lost profits are difficult to prove, and any patent owner who does not sell goods in competition with the defendant will be unable to demonstrate lost profits from infringement. The only loss for such patent holders is the royalty for which they could have licensed the patent. How does the court determine what is reasonable. ... While the stated goal of the reasonable-royalty inquiry is to replicate the negotiation that might otherwise have occurred, it is important to recognize that the negotiation is counterfactual in important respects." at 2018-19

how they should be calculated.¹⁰⁷ The description of the economic variables which are included in this calculation being described in the article as follows:

- V: The Value per unit of the patented feature to the downstream firm in comparison with the next best alternative technology. For example, if the patented feature enhances the value of the product to consumers by \$1 over the next best alternative, then $V = \$1$. Similarly, if it reduces the cost of manufacturing the good by \$1, then $V = \$1$.

- θ : The Strength of the patent, i.e., the probability that litigation will result in a finding that the patent is valid and infringed by the downstream firm's product. Critically, we assume there is no way to determine with certainty whether the patent is valid and infringed without litigating to judgment. Therefore, it is not possible to take into account the value provided by the intellectual property for the downstream firm to fully resolve the uncertainty about validity and infringement before making its investment decisions.

- B: The Bargaining skill of the patent holder, as measured by the fraction of the combined gains from settling, rather than litigating, that are captured by the patent holder. This variable falls between 0 and 1. Equal bargaining skill, $B = 0.5$, is a common assumption.¹⁰⁸

Using these variables, the article then constructs anticipated result of hypothetical negotiation which are as follows:

"we first develop a benchmark level for the royalty rate, i.e., the royalty rate that would be reasonable and expected in the ideal patent system without any element of holdup. We illustrate our benchmark using a numerical example. Suppose that two firms have equal bargaining skill, so they split equally any gains from reaching an agreement. This corresponds to a value of $B = 0.5$. Suppose that a patented feature is worth $V = \$1$ per unit to the downstream firm, compared with the best non-infringing alternative. If the patent were surely valid, and if holdup were not a factor in the negotiations, the two firms would split the gains of \$1.00 per unit from using the patented technology, which would lead to a royalty rate of \$0.50 per unit. More generally, the benchmark royalty rate for an ironclad patent is equal to $B \times V$.

We also consider this the proper benchmark for reasonable royalties, since reasonable royalties are meant to reflect the royalty rate that would be negotiated, prior to any infringement, if the patent were known to be valid. Because the royalty negotiations take place before a final court decision, the benchmark royalty rate must be discounted to reflect patent strength. To illustrate, suppose that there is a 40% chance that the patent will be found valid and infringed. Absent any holdup, the benchmark royalty rate would just be 40% of the value that would apply if the patent

¹⁰⁷ *id.* The other economic variables which are suggested but not included in the reasonable royalty calculation are described are: "• M: The Margin per unit earned by the downstream firm on its product. ... • C: The Cost to the downstream firm of redesigning its product to avoid infringing the patent claims, ... • L: The fraction of the downstream firm's total unit sales during the lifetime of the patent that would be Lost if the downstream firm were forced off the market by an injunction. at 2020

¹⁰⁸ *id.* at 1996-1997

were ironclad. In our numerical example above, the benchmark for an ironclad patent was \$0.50 per unit, so the benchmark for the same patent with strength 40% equals \$0.20 per unit.¹⁰⁹ More generally, the benchmark royalty rate is given by $\theta \times B \times V$, where θ is the patent strength.¹⁰⁹

It is this 20% of the value defined by V which is referred to earlier. What this construct suggests is that in the normal negotiations which would be replicated under a hypothetical negotiation, an intellectual property owner would agree to license its property to a technological manufacturer for 20% of the value that their property provides over the next best alternative. Which is to say if the use their property raises the sale value of technological product by \$1, they should be satisfied with a \$.20 royalty rate for that property, with the technology manufacturer capturing the additional \$.80 as profits.

Somewhat surprisingly it is also suggested that this discount could be even greater, depending on the profits which the technological manufacture can earn on the next best alternative. This because according to the authors, the profit which can be made on the next best alternative should be deducted from the value that that intellectual property provides over that alternative.¹¹⁰ So using their example if the next best alternative provides the technological provider profit of \$.40, then the base value would be \$.60. This; like the earlier value of \$1, would be subject to the same bargaining strengthen and validity discounts, thereby establishing a benchmark rate of \$.12. So, what this additional proposition suggests is that in the normal negotiations which would be replicated under a hypothetical negotiation, an intellectual property owner agree to license its property to a technological manufacturer for 12% of the value that their property provides over the next best alternative, and the technology manufacturer reaping 88% of that value.

If the proposition that intellectual property owners only deserve royalties which represent 12% of the value which their intellectual property provides appears a little extreme, it should be noted that this is in fact not far off what intellectual property providers now receive for their intellectual property in the field of mobile telecommunications. Recent reports on patent royalties as a percentage of mobile phone revenue indicate that the aggregate rate paid by mobile phone manufactures is around 3.3% of the price of a mobile phone.¹¹¹ If that 3.3% were divided by 12% it would correspond to an aggregate value contribution from all the intellectual property incorporated in a mobile phone of 27.5% of the price of a mobile phone. To the extent that mobile phones are a relatively new technological product, and would not exist without recently patented intellectual property, it does not appear to be much of a stretch to suggest that the intellectual property included in mobile phone provides at least 27.5% of the value of a mobile phone. Another way to think about this is pose the question; if there was only one owner of all the intellectual properties incorporated in a mobile phone, and no one could manufacturer mobile phones without a license from them, what royalty would that owner charge technology manufacturers for the use of those intellectual properties?

¹⁰⁹ *Id.* at 1999

¹¹⁰ *Id.* at 1996-1997

¹¹¹ Alexander Galetovic, Stephen H. Haber, and Lew Zaretski, *A New Dataset on Mobile Phone License Royalties*, Hoover Institute Working Group on Intellectual Property, Innovation and Prosperity (Stanford University, Sept 2016): (herein after: Galetovic, Harber and Zaretski, *Mobile Phone Licensing Royalties*, (2016))

3.5.2 Rebutting Patent Holdup and Royalty Stacking

One common response to Lemley and Shapiro's hypothetical negotiation constructs is a point of law which question the use of hypothetical negotiations as an appropriate solution for calculating reasonable royalties.¹¹² This response is based upon the fact that there exists no statutory definition of reasonable royalties are to be calculated. The term itself is included in the U.S. codes as follows:

'Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer. ... When the damages are not found by a jury, the court shall assess them. ... The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances.'¹¹³

As was pointed out in these responses, historically damages were based upon the actual damages, which were associated with either lost profits or lost established royalties.¹¹⁴ Lost profits representing the profits that an intellectual property owner would have earned on their own technological product "but for" the infringement, and lost established royalties representing a royalty payment that the owner can show they would have otherwise been able to charge "but for" the infringement.¹¹⁵ To prove lost profits the intellectual property owner must prove four facts: a) there was demand for the patented product, b) there was no non-infringing alternative, c) the owner could have supplied that market demand, d) the profits could be reasonably estimated.¹¹⁶ To prove loss of established royalties the owner need shown that there existed an active licensing scheme which incorporated a standard rate.¹¹⁷ To the extent that both these damage calculations requires such specific facts for proof, they can be categorised as specific damages, which clearly indicate the level of compensation which is required to cover damages incurred from an unauthorised use. However, the level specificity needed to prove such claims meant that it is hard to achieve.¹¹⁸

It was in an effort provide damages when actual damages were difficult to prove that the courts adopted reasonable royalties as a new basis for damages. This method of calculating

¹¹² See e.g.: Eric E. Bensen & Danielle M. White, *USING APPORTIONMENT TO REIN IN THE GEORGIA-PACIFIC FACTORS*, (Columbia Science and Technology Law Review 9 Colum. Sci. & Tech. L. Rev. 1, 2008); John C. Jarosz & Michael J. Chapman, *THE HYPOTHETICAL NEGOTIATION AND REASONABLE ROYALTY DAMAGES: THE TAIL WAGGING THE DOG* (16 STAN. TECH. L. REV. 769, 2013) (herein after: Jarosz and Chapman, *The Tail Wagging the Dog*, (2013)); Michael Risch, *(Un)Reasonable Royalties*, (Boston University Law Review, Vol. 97, December 12, 2016) (herein after: Risch, *(Un) Reasonable Royalties*, (2016)); Taylor, David O., *Using Reasonable Royalties to Value Patented Technology*, SMU Dedman School of Law Legal Studies Research Paper No. 202 (49 Georgia Law Review 79, April 4, 2014) (herein after: Taylor, *Using Reasonable Royalties* (2014))

¹¹³ 35 U.S.C § 284 (2011)

¹¹⁴ Jarosz and Chapman, *The Tail Wagging the Dog*, (2013), at 773

¹¹⁵ *Id.* at 774

¹¹⁶ *Id.* citing: *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978). at 774

¹¹⁷ *Id.* citing: *Mobile Oil Corp. v. Amoco Chems. Corp.*, 915 F. Supp. 1333, 1342 (D. Del. 1994). To qualify as an "established royalty," a royalty rate must have been (1) paid prior to the infringement at issue, (2) "paid by a sufficient number of persons" as "to indicate the reasonableness of the rate," (3) uniform, (4) not set under the threat of a lawsuit or in settlement of a litigation, and (5) covering a comparable set of rights or uses as are at issue in the litigation under consideration. at 774

¹¹⁸ *Id.* at 772

damages representing general rather than specific damages, which were codified in 1922.¹¹⁹ Despite this codification the method for calculating reasonable royalties remained rather arbitrary until the *Georgia Pacific*,¹²⁰ when the district court listed 15 non-exhaustive factors which they held were relevant to the calculations. The last of these factors being a consideration of the hypothetical negotiations which would have occurred if the infringement were to be avoided.¹²¹ These factors being reemphasised in the *eBay v MercExchange* opinion.¹²²

What legal experts point out in their responses to Lemley and Shapiro is that there are in fact thirteen other factors which are listed in the *Georgia Pacific* decision and to focus solely on hypothetical negotiations does not conform with the precedent established in case. The more specific criticism points to the fact that it is nearly impossible to construct a hypothetical negotiation which would replicate the situation which was in existence before the infringement took place. That in order to do so a number of subjective assumptions must be made which undermine the reliability of the factor.¹²³ They further point out that the nature and extent of these subjective assumptions were clearly recognised by the courts, including by the judge in the original case.¹²⁴ The essence of their response being that the subjectivity of these assumptions prevents hypothetical negotiation from providing the legal clarity needed for its use as a means of deciding reasonable royalties.¹²⁵

While points of law questioning whether or using hypothetical negotiations to determine a reasonable royalty rate for an infringement are one way of challenging Lemley and Shapiro's construct, given that over the last six years 81% of recent U.S. court cases have determined damages according to a hypothetical reasonable royalty rate calculation,¹²⁶ a more effective way is required.

Assuming that hypothetical negotiations is the way forward, more effective counterargument could be provided by challenging the assumptions which are the foundation for their hypothetical negotiation and the calculations used to simulate those negotiations. In formulating this challenge two aspects need to be considered. First whether their assumptions and calculations are consistent with economic theory and second if assumptions and calculations are consistent with the foundations of intellectual property law. If their construct

¹¹⁹ *Id.* at 777-8

¹²⁰ *Georgia-Pacific* 1970, 318 F. Supp. 1116, 1119 (S.D.N.Y. 1970)

¹²¹ *Id.* "The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee—who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention—would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license." at 1119

¹²² *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006)

¹²³ Jarosz & Chapman, *The Tail Wagging The Dog*, (2013) 'Unfortunately, the concept of a "hypothetical negotiation" is not self-executing in the context of a patent infringement litigation—i.e., the translation of the general concept into a tool that can be used to analyze reasonable royalty damages is not automatic. Rather, it requires the introduction and application of various assumptions and judgments—a process that invites and introduces unnecessary conflict and uncertainty into the determination of reasonable royalty damages.' at 783

¹²⁴ *Id.* 'explained that the manner and extent to which the different factors would be considered was left to the fact finders' at 781

¹²⁵ *Id.* 'The result has been a host of widely divergent royalty recommendations and outcomes within cases and across cases, all purportedly supported by a hypothetical negotiation construct. Individually and collectively these results provide little predictability or guidance to patent owners and future litigants.' at 784

¹²⁶ CHRIS BARRY, RONAN ARAD, LANDAN ANSELL & EVAN CLARK, PRICEWATERHOUSECOOPERS, 2013 PATENT LITIGATION STUDY: BIG CASES MAKE HEADLINES, WHILE PATENT CASES PROLIFERATE 6 (2013) at 11

can be shown to be incompatible with either of these aspects it should diminish the validity of their construct, and if inconsistent with both it should thoroughly invalidate the construct.

With respect to the assumptions; the first assumption made by Lemley and Shapiro is that infringement of intellectual property is primarily the result of accidental infringement, because technological manufacturers are typically unaware of the existence of the intellectual property. To back up this assumption, Lemley and Shapiro include a discussion of how accidental infringement can occur which they describe as follows:

"Suppose, for now, that the downstream firm is already selling its product when it learns of the patent claim. This timing may result because the downstream firm designed its product to include a feature for which a patent application was subsequently published or a patent was subsequently issued, perhaps after the patent holder amended its initial claims to capture the downstream firm's product, ... Alternatively, the downstream firm may simply have been unaware at the time it designed its product that the patent now being asserted had been issued, or it may have been aware of the patent but had no reason to believe the patent owner would argue that the downstream firm's product infringed it. Further, in some cases, the patent holder can engage in strategic delay or concealment, knowing it will be in a stronger bargaining position once the downstream firm has already designed its product incorporating the patented "¹²⁷

While it may be possible that there are instances where the technological manufacturer are accidental infringers, common sense and modern patent searches capacities would tend to indicate that these would be the exception, rather than the rule. Common sense indicates this would be the exception because every technology manufacturer knows that every modern technological product incorporates patented innovations. A fact that any technology manufacturer could easily verify by using online patent search facilities provided by all patent agencies. If that were not enough they could also search legal data bases to find information on ongoing litigation between intellectual property owners and other infringers. To pretend that the technological product they choose to manufacture is not subject easily verifiable patent protection, demonstrates either wilful blindness, or dishonesty. Ironically this practice has been condemned by the U.S. Supreme court with respect to induced infringement.¹²⁸

Refuting this assumption is important because it is used portrays technological manufacturers in a positive light, which will presumably be reflected in the eventual outcomes. The effect of this potential bias being demonstrated by statutory language which allow for wilful infringement to be more severely punished than unintentional infringements.¹²⁹ Obviously if this assumption is invalidated, it alters the dynamics of the case by portraying the intellectual property owners as a victim of wilful infringement by a technological manufacturer; who is attempting to avoid paying royalties for the use of a property.

¹²⁷ Lemley and Shapiro, *Patent Holdup and Royalty Stacking*, (2007) at 1995

¹²⁸ *Global-Tech Appliances Inc. et al. v. SEB SA*, 563 U.S.754 (2011) 'The doctrine of wilful blindness is well established in criminal law. Many criminal statutes require proof that a defendant acted knowingly or willfully, and courts applying the doctrine of willful blindness hold that defendants cannot escape the reach of these statutes by deliberately shielding themselves from clear evidence of critical facts that are strongly suggested by the circumstances.' at 10

¹²⁹ 35 U.S.C § 284 (2011) "In either event the court may increase the damages up to three times the amount found or assessed."

The second assumption made in the article is that; only 40% of patents are in fact valid. This assumption appears to be entirely valid as has been convincingly demonstrated in Lemley and Shapiro's earlier work titled "*Probabilistic Patents*".¹³⁰ This despite the fact that the U.S. Supreme Court has ruled that a patent grant includes a presumption of validity, which requires a heightened standard of proof to invalidate them.¹³¹

The third assumption made is that; whenever patent owner charges a higher royalty this will increase manufacturing costs, thereby reducing demand for the technological product. This assumption is based upon an economic theory called "Cournot complements", which Lemley and Shapiro describe as follows: 'The Cournot-complements effect arises when multiple input owners each charge more than marginal cost for their input, thereby raising the price of the downstream product and reducing sales of that product.'¹³² While this represents a valid economic theory; it should be noted that the implication that royalties should be based upon the marginal cost of inputs is directly contradictory to justification for intellectual property protection. For nowhere in any statutes covering intellectual property law does it state that intellectual property owners are *only* entitled to cover their marginal cost of production. While it absolutely is the case that higher royalties will lead to decreased product sales, this cannot be used as a justification for lower royalties without overturning the intent and language of those laws.

The fourth assumption included in the article suggests that; royalty stacking leads to aggregate royalty rates which would be above those which would be charged by an integrated monopolist. The problem with this assumption is that it conflates patent holdup with royalty stacking.¹³³ Clearly it is true that if all intellectual property owners demand royalties which are significantly in excess of the value that their property provides to a technological product, this will result in a price which exceeds that which would be charged by an integrated monopolist. However; if those same owners demand royalties which are equal to the value which their properties contribute, that aggregate royalty rate should be equal to the effective royalty rate that an integrated monopolist would charge for a technological product. This because as an integrated monopolist which does not face any competition, it can use a price maximising strategy which captures all to the value provided by its product. An additional problem with this assumption is the implication that having multiple patent owners contributing to a technological product represents an undesirable development in innovation. Nothing could be further from the truth. As described in the introduction the fact that multiple parties are contributing to technological product significantly enhances the quality, quantity and speed at which new innovations are created.

The fifth assumption included in the article is that paying the royalty equivalent to the value which a patent provides to a technological product will result in decreased margins of technological manufacturer and may drive those margins to zero in which case the manufacturer would cease production of the technological product. What this assumption fails to take into consideration is that if higher royalty rates are applied to all the technology manufacturers, all

¹³⁰ Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, (19 J. ECON. PERSP., Spring 2005) at 75

¹³¹ *Microsoft Corp. v. i4i Ltd. Partnership*, 564 U.S. 91 (2011), 'Congress has amended the patent laws to account for concerns about "bad" patents, including by expanding the reexamination process to provide for inter partes proceedings.' at 19

¹³² Lemley and Shapiro, *Patent Holdup and Royalty Stacking*, (2007) at 2013

¹³³ *Id.* "Together, these problems cause prices to be higher than would be set by an integrated monopolist who owned all of the patents and sold the downstream product." at 2014.

of them could increase their prices in order to maintain their margins, and none would be forced exit the market. It should be noted that the prospect of higher prices for the technological product were included the previous assumption, which would indicate both that higher prices are possible and that there is a clear contradiction between these assumptions. The only manner in which this assumption could be considered valid is if it was only some manufacturers had to pay higher royalties and others did not. If that were to happen it would obviously put those that paid the higher royalties at a competitive disadvantage to those that did not.

The first recommendation which is included in the article proposes that; it was counterproductive to negotiate with intellectual property owners before a property is incorporated into a technological product, as it would likely result in a royalty rate which is equivalent to the value provided by the intellectual property. Implicit in this recommendation is an assumption that there is something inequitable about technology manufacturers paying royalties which are equivalent to the value which they provide to a technological product. And further that the court can be relied upon to correct this inequity. This would appear to be a relatively one-sided view of equity, as it is unlikely that any intellectual property owner would hold this view. It also clearly informs the reader about the intent of the calculation which Lemley and Shapiro are advising to be used in the calculations utilised in their hypothetical negotiation construct.

The second recommendation contained in the article suggest that: If intellectual property owners are unwilling to licence their properties at royalties which represent a significant discount to the value that they provide to a technological product, technological manufacturers should rely on the courts to determine a reasonable royalty according to hypothetical negotiations. This recommendation is just a reformatted expression of the previous recommendation. Like the previous recommendation, inherent in it is the implication that there is something inequitable about technology manufacturers paying royalties which are equivalent to the value which their properties provide to a technological product. The difference between this and the previous recommendation is that it recognises that intellectual property owners may not be willing to license their properties at a significant discount to that value. An observation which directly contradicts the claims made in their proposed method for calculating reasonable royalties.

Before moving on to the factors which are used by Lemley and Shapiro to construct their hypothetical negotiation "benchmark rate", it should be noted that the article implicitly justifies the use of these factors by referring to the 'standard economic theory of Nash Bargaining'.¹³⁴ Which, according the authors would result in a 'negotiated royalty rate [which] depends upon the payoff that each party would obtain if negotiations break down'.¹³⁵ The problem with this justification is that it represents a circular argument. Which is to say that in order for a Nash Equilibrium to exist there must be a range of outcome which the litigants could expect to occur in the event that negotiation breakdown, and therefore it cannot be used to justify a construct which determines that range. More specifically what the Nash Bargaining suggest is that; when there is uncertainty about an outcome, the bargaining entities should conclude an agreement which takes into account their perception of the relative probability of each potential outcome in the range of possible outcomes. If there exists a large range of potential outcomes and each

¹³⁴ *Id.* at 1995

¹³⁵ *Id.*

is equally likely the Nash Equilibrium will generally fall in the middle of that range. To be clear this does not mean that the Nash Bargaining is irrelevant to hypothetical negotiation, just that it needs to be applied after the range and probabilities of each outcome is as clearly defined as possible, and to do so before that range is identified will result in a distortion of its predictive powers.¹³⁶

To demonstrate how Nash Bargaining results can differ depending on the range and probability of outcomes, three scenarios will suffice. In all three scenarios it is assumed the intellectual property in dispute is essential to the functioning of a technological product and cannot be substituted. In the first scenario the assumption is that the courts still maintain the automatic right of property owners to be provided with injunctive relief whenever an infringement is found, (the patent holdup scenario). In the second let's assume that the courts no longer grant automatic injunctive relief and appear to set reasonable royalty damages on an unpredictable basis somewhere between the value provided by the property and 0% of that value, (The Lemley Shapiro Scenario). In the third scenario, the courts no longer grant automatic injunctive relief, and regularly set the reasonable royalty rate equal to the 90% of the value the intellectual property provides which property, (The Correlated Rights Scenario).

Under the patent holdup scenario there will exist a very high Nash equilibrium. This because there is a virtual certainty that injunctive relief will be provided, and the fact that the cost of being enjoined from producing the technological product can be thousands of times higher than the value provided by an individual patent. It is these virtually certain injunctive costs which significantly increased the level and range of outcome expectations, thereby producing a Nash Equilibrium which can be exponentially larger than the value which the property provides to a technological product. A theoretical prediction which can be easily validated by looking at rates negotiated rates prior to the elimination of automatic injunctive relief.¹³⁷

Under the Lemley and Shapiro scenario there will exist a significantly lower Nash equilibrium. This because the range of anticipated range would be between the value which the property provides and 0% of that value with equal probabilities along the entire range. In fact, under this scenario the Nash equilibrium would correspond to 50% of the value that the property provides.

Under the correlated rights scenario, because it would be anticipated that the courts will order damages equivalent to 90% of the value which an intellectual property provides to a technological product; the range would be represented by the contested estimates of that value, with the Nash Equilibrium falling in the middle of that range.

What these three scenarios clearly demonstrate is that Nash equilibrium is entirely dependent upon the doctrine which is followed by the courts and cannot be used as a theoretical argument for what those outcomes should be. The essence of this observation being captured by the reluctance of the courts to embrace arguments based upon expert testimony as to the premature application of a Nash Equilibrium in actual patent disputes. A good summary of those cases can be found in the *VirnetX, v. Cisco and Apple*,¹³⁸ which provides a list of recent decision

¹³⁶ William Choi, Scott Dalrymple, and Daniel Jackson, "Don't Shoot The Methodology: Misuse Of Nash Bargaining," (Law360, 2014) "A correct administration of the NBS directly incorporates the economic facts and circumstances about the parties and the patented technology, and, unlike a profit-split methodology, a conclusion can only be reached after the consideration of all the "relevant facts and circumstances.""

¹³⁷ See for example: *NTP, Inc. v. Research in Motion, Ltd.*, 261 F.Supp.2d 423 (E.D.Va. 2002)

¹³⁸ *VirnetX, Inc. and Science Applications International Corporation v. Cisco Systems, Inc., and Apple Inc.* 767 F.3d 1308 (Fed. Cir. Sept. 16, 2014)

where expert witnesses have sought to rely on the Nash Bargaining Solution.¹³⁹ In the cases where such a premature application was rejected, it was done so because the courts questioned its connection to the facts of a case. A good articulation of which is provided in decision itself, which read as follows:

'The problem with Weinstein's use of the Nash Bargaining Solution, though somewhat different, is related, and just as fatal to the soundness of the testimony. The Nash theorem arrives at a result that follows from a certain set of premises. It itself asserts nothing about what situations in the real world fit those premises. Anyone seeking to invoke the theorem as applicable to a particular situation must establish that fit, because the 50/50 profit-split result is proven by the theorem only on those premises. Weinstein did not do so. This was an essential failing in invoking the Solution.'¹⁴⁰

This decision being cited by other legal scholars who advocate the use of Nash Bargaining in intellectual property disputes.¹⁴¹

Returning to the actual factors used in Lemley and Shapiro's construct, as mentioned above there are only three factors which Lemley and Shapiro use to come up with their 20% solution; the value the property contributes to the technological product, the bargaining skill of the parties, and the probability of invalidity.

In defining the value provided by the property they suggest that this calculation involves assessing the being 'value per unit of the patented feature to the downstream firm in comparison with the next best alternative technology.'¹⁴² Inherent in this definition appear to

¹³⁹ *Id.* "Compare *Robocast, Inc. v. Microsoft Corp.*, No. 10–1055, 2014 WL 350062 (D.Del. Jan. 29, 2014) (excluding expert testimony based on Nash Bargaining Solution because it was not sufficiently tied to the facts of the case); *Dynetix Design Solutions, Inc. v. Synopsys, Inc.*, No. 11–5973, 2013 WL 4538210, at *4–5 (N.D.Cal. Aug. 22, 2013) (excluding expert testimony on royalty rate that began from a starting point of a 50/50 split because the expert's methodology was 'indistinguishable from 25% rule'); *Oracle Am., Inc. v. Google Inc.*, 798 F.Supp.2d 1111, 1119–21 (N.D.Cal.2011) (excluding testimony based on Nash Bargaining Solution because it 'would invite a miscarriage of justice by clothing a fifty-percent assumption in an impenetrable façade of mathematics') with *Mformation Techs., Inc. v. Research in Motion Ltd.*, No. 08–4990, 2012 WL 1142537, at *3 n. 19 (N.D.Cal. Mar. 29, 2012) (declining to exclude Weinstein's testimony based on Nash Bargaining Solution because he used it only 'as a check' in addition to the Georgia-Pacific analysis, rather than in lieu of it); *Gen-Probe Inc. v. Becton Dickinson & Co.*, No. 09–2319, 2012 WL 9335913, at *3 (S.D.Cal. Nov. 26, 2012) (permitting testimony based on Nash Bargaining Solution because calculation was sufficiently tied to the facts of the case, 'including the competitive environment and Gen-Probe's policy of exploiting its own patents'); *Sanofi-Aventis Deutschland GmbH v. Glenmark Pharms. Inc., USA*, No. 07–5855, 2011 WL 383861, at *12–13 (D.N.J. Feb. 3, 2011) (determining that expert's testimony asserting a 50/50 profit split was based on the specific facts of the case); *Amakua Dev.* 50 See, for example, Robert Goldscheider, John Jarosz, and Carla Mulhern, "Use of the 25 Per Cent Rule in Valuing IP," *les Nouvelles*, 2002 and Stephen Degnan and Corwin Horton, "A Survey of Licensed Royalties," *les Nouvelles*, 1997. Page 12 of 14 *LLC v. Warner*, No. 05–3082, 2007 WL 2028186, at *20 (N.D.Ill. July 10, 2007) (permitting reliance on Nash because the '[d]efendants ha[d] not challenged the reliability of Nash's theories, and the assessment of whether the theory persuasively can be applied in the context of this case is for the jury'). ... [W]e agree with the courts that have rejected invocations of the Nash theorem without sufficiently establishing that the premises of the theorem actually apply to the facts of the case at hand." at 1332

¹⁴⁰ *Id.* at 1332–33

¹⁴¹ Lance Wyatt, *Keeping Up with the Game: The Use of the Nash Bargaining Solution in Patent Infringement Cases*, 31 Santa Clara High Tech. L.J. 427 (2015). 'As recently exemplified in a recent Federal Circuit opinion, proper use of the NBS is vital to its viability as a proper method to calculate a reasonable royalty. Accordingly, proper use can be encouraged by a simple technique used by many mathematics teachers—show your work. If the equations by Choi and Weinstein are utilized, and damages experts show how they calculated the values for the variables involved, courts can rest assured that the damages experts are tying the specific facts of the case to their analysis.' at 459

¹⁴² Lemley and Shapiro, *Patent Holdup and Royalty Stacking*, (2007) at 1996

be the presumption that a next best alternative is available and that there are no costs associated with its use. Obviously if the property in question is essential for the functioning of a technological product, and particularly if it is a standard essential property which is required to comply with a specific technological standard, there are no substitutes which will be available. In such case their definition would need to be shortened to the "value per unit of the patented feature to the downstream firm". Equally obviously, if a next best alternative exists but is also a protected property, then the value must also take into account the value of that property. So, if for example the additional value provided by the property is \$1/unit and the next best alternative is commonly licensed at the \$1/unit then the value of the disputed property must be \$2/unit.

Assuming that Lemley and Shapiro's presumptions are negated by the facts in individual cases this factor does not need to be further rebutted, as it simply represents an acknowledgement that there exists a value which the intellectual property provides to a technological product and that value can be determined. If anything, this factor is counterproductive to their construct, as it highlights a potential claim for lost royalties can be backed up by a calculation which establishes the level of royalties which an owner would likely receive, but for an intentional infringement and reliance on the courts to discount the value which a property provides to a technological property.

The second factor used in their hypothetical negotiations is the anticipated bargaining skills, which according to the proposed construct would result in value provided by the intellectual property being divided equally between the intellectual property owner and the technology. To illustrate this factor Lemley and Shapiro use an example which they describe as follows: 'suppose that a buyer values a certain new product at \$100, and a seller's marginal cost of producing the product is \$40. If the buyer has no viable alternative to this product, the buyer's threat point is to not buy the product and, and the seller's threat point is to not sell the product. Reaching a deal generates gains from trade of $\$100 - \$40 = \$60$ in comparison with those threat points. With equal bargaining skill, these gains would be split equally, leading to a price of \$70.¹⁴³ What is ignored by this illustration are two extremely significant elements. First is the question of where or not there are other buyers who are willing to pay the full \$100 price. When there are other buyers willing to pay the full price, then it does not matter how much bargaining skill the buyers have, as the seller will always sell for the highest price. From an intellectual property context those other buyers would be other technology manufacturers. It should also be pointed out that under intellectual property law there should only be one seller. Second is whether the property is essential to the technological product being manufactured. If it is, then the threat points of the respective buyer and seller are dramatically altered. When an intellectual property is essential the buyer must purchase the property in order to manufacture the technological product and will pay any price which still allows them to make a small profit on the technological product. To do otherwise would be require them to write off the sunk costs which they have invested in their manufacturing operations, which would constitute a significant financial loss. It is this dynamic which drives patent holdup. It is only by ignoring these elements that the negotiating skill 50/50 split of the value provided by the innovation may be sustained. Which is not to suggest that bargaining skill is not a factor, merely that it is a factor which is constrained

¹⁴³ *Id.* at 1997

by the bargaining strength of the parties as determined by the facts of the case and the strength of intellectual property rights.

It should also be noted that Lemley and Shapiro acknowledged these elements in their article, even if they fail to incorporate them into their construct.¹⁴⁴ Instead they build on their construct by further presuming that there exists an inferior low cost alternative which provides the technological manufacturer with a specified profit can be used to reduce their threat points and increase the potential discount which should be provided to the technology manufacturer.¹⁴⁵ From a theoretical prospective this additional discount quite simply turns the whole bargaining structure of intellectual property on its head. Instead of the intellectual property owner having the monopoly and selling to a competitive market, the buyer is presumed to have the monopoly and the intellectual property owner part of a competitive market. From a practical prospective what it suggests is that a technology manufacturer can remain competitive in the market even if it uses outdated technology, a suggestion which highly doubtful. Indeed, such is the importance of having the newest and best innovations included in a technological product, this factor if anything should enhance the bargaining position of intellectual property owners rather than diminishing it.

The third factor which is used in the article to discount the value which the intellectual property provided to the technological product has to do with the strength or validity of the patent. Pointing to Shapiro's work on patent validity they argue that because only 40% of all patents are found to be valid when challenged; the 50% reduction in value should be discounted by a further 60% to reflect the probability that the patent in dispute is invalid. There are two elements that are ignored in this discount. The first is that almost every defence of patent infringement challenges the validity of the patents in suit, which means that only valid patent are considered. To suggest that a valid patent should be discounted by 60% because 60% of patent not in suit are invalid, ignores the facts of the case.

The second element which is ignored has to do with the fact that the few patent disputes are only about a single patent, with most being about a portfolio of patents which read on a specific technology. While there can be no disputing that significant over declaration does occur, it can also not be disputed that the perceived value which is contributed to a technology remains the same regardless of how many valid and invalid patent are said to cover the technology. Which is to say that *consumers value the technological product and its integrated intellectual properties according to a subjective judgement which does not involve valid patent counting*. For them and for the courts the value contributed should be the same, with the value simply being divided amongst a smaller number of valid patents. Assuming that a patent owner has the same percentage of valid and invalid patents in their portfolio as other intellectual property contributors, this should not change their proportional share of that aggregate value. This premise is not at all controversial and has incorporated into numerous cases in recent years, wherein the courts examined in detail the validity of the patents owned by the plaintiff and compare then to the validity all patents which are practiced in a technology.¹⁴⁶ In short, this patent strength discount should be ignored whenever a patent is found valid.

Given that the two discount factors suggested by Lemley and Shapiro do not reflect the facts in most intellectual property disputes, what's left is a construct which focuses solely on the value

¹⁴⁴ *Id.* at 1996

¹⁴⁵ *Id.* 1996-1997

¹⁴⁶ See Chapter 9 for examples of this practice in recent court cases.

provided to a technological product by the intellectual property. This value representing the true measure on which reasonable royalties should be determined. Curiously what is missing in Lemley and Shapiro's discussion of this factor is the certainty that intellectual property owners and technology manufacturers will always disagree on the what will be the value per unit which a downstream firm will place on the disputed property. It is this disagreement and the resulting range of expectations in terms of what the courts will conclude is that value, which are the most suitable components to be used for a Nash Bargaining analysis. The size of the disagreement and the range of anticipated value being closely correlated to the range of values which are established by the courts in earlier cases which involve the same technological product. In the event that the courts establish a consistent value the range will be small, but if court decisions vary dramatically it will be large.

If anything this analysis would suggest that if any point of law needs to be examined it is whether intellectual property law provides owners the right to the value which their intellectual property provides to a technological product, or unlike other property owners the law should prevent them from realising that value.¹⁴⁷ The latter being supported by Lemley and Shapiro and the former being; required under an application of the correlated rights doctrine, supported by the underlying justification for intellectual property law, and other legal scholars who discount Lemley and Shapiro's construct.¹⁴⁸

While this proposed solution was rejected because it replaced one injustice with another, it does provide two valuable contributions to a more equitable solution. First it suggests that intellectual property rights are capable of being redefined in order to avoid an inequity. The second contribution being that it indicates that it is entirely possible to calculate the value which an intellectual property contributes to a technological product.

3.6 Unanticipated Solution

Having failed to find an adequate solution in competition law, patent law, or patent pools, and the search for an unanticipated solution was initiated. That search involved both a comprehensive review of the history of property and property rights¹⁴⁹ as well as an examination

¹⁴⁷ An analogy which demonstrates the inequity of this construct in real property would be to consider a situation where there are two home owners, one of which owns a single house land while the other owns an apartment. If this construct were applied it would suggest that while the single house owner would be allowed to charge a market rate for the rental of their house, whereas the apartment owner would only be allowed to charge 20% of the market rate for their rental.

¹⁴⁸ Jarosz and Chapman, *The Tail Wagging the Dog*, (2013), 'We suggest here an approach that is centered on the footprint (and use) of the patent and is guided by the fundamental objective of providing fair compensation in light of unauthorized use, rather than being guided by an overriding need to model a malleable and somewhat unnecessary hypothetical negotiation process. We suggest a consideration and assessment of a patent's (1) incremental benefits, (2) licensing comparables, and (3) design-around costs.' at 773;

¹⁴⁹ Books read included: Justinian *The Digest of Roman Law* translated by C.F Colbert (Penguin Books, 1979); Frederic W. Maitland and Francis Montague, *A Sketch of English Legal History* orig. pub. in 1915 (The Law Book Exchange 2009); Kenelm Edward Digby, *An Introduction to the Law of Real Property* orig. pub. in 1923 (Clarendon Press, 1975) Sidney Z. Ehler and John b. Morrall, *Church and State Through the Centuries* (The Newman Press 1954); Stephen Buckle, *Natural Law and the Theory of Property* (Clarendon Press, 1991); Stephen Munzer *New Essays in the Legal and Political Theory of Property* (Cambridge University Press, 2001); Peter Garnsey, *Thinking about Property; From Antiquity to the Age of Revolution* (Cambridge University Press, 2007); Richard H. Chused, *A Property Anthology* 2nd eds (Anderson Publishing Co, 1997); Herbert Hovenkamp and Sheldon F. Kurtz, *The Law of Property* 5th eds (West Publishing Co. 2001); Dukeminier Krier and Alexander Schill, *Property* 6th eds 8 (Aspen Publishers, 2002) Thomas W. Merrill, *Property: Principles and Policies* (Foundation Press, 2007); Roger J. Smith, *Property Law* 5th eds (Pearson Education Limited, 2006);

of specific bodies of law.¹⁵⁰ The goal of that research was to find a solution which could be applied without any statutory changes; did not unreasonably infringe on the autonomy of intellectual property owners to control their properties, was equitable, efficient, and clear. The objective of avoiding solutions which required statutory changes was driven by the expectation that such changes would require years of lobbying and it would be virtually impossible to achieve a consistent result in every jurisdiction. The objective of maintaining the autonomy of intellectual property owners, having both principle and practical consideration. The principle perspective derived from a belief that property rights should not be unnecessarily interfered with. The practical perspective being the lower the level of interference that higher the potential level of acceptance. The objective of finding an equitable solution was inherent in the search for a solution to the problems of patent holdup and patent holdout, which were defined as problems because of their inequitable outcomes. Any solution which did not ensure that intellectual property owners were properly rewarded for the value that their property provided; could not be considered as a solution. Efficiency was essential in that patent holdout relied on judicial inefficiency to achieve their objective. If the solution added yet another component to an already complex legal analysis it would increase the possibilities of engaging in "legal attrition". The objective of providing clarity resting on the notion that if the solution was easily comprehended, it would be more readily accepted.

When the correlated rights doctrine was found in Californian water law it became clear that this represented almost an idea solution, as it met all these criteria. It was equally clear that because the doctrine so fundamentally clashed with the historical notion of the exclusivity and relative absoluteness of intellectual property rights, there was little chance that this doctrine could be migrated into intellectual property law by merely advancing it as an alternative. Which is why there are chapters in this thesis not typically associated with a legal thesis including; a review of the justifications for intellectual property law, a challenge to the ideological theories which form the foundational pillars of the exclusive or absolute rights perceived to exist in current intellectual property and a chapter describing a property continuum which encompassed a comprehensive history of the evolution of property rights.

¹⁵⁰ Books read included: Ronald Rotunda, *Modern Constitutional Law* 7th edition (West Group, 2003); Gregory J. Sidak and Daniel F. Spulber, *Deregulatory Taking and Regulatory Contract* (Cambridge University Press, 1999); Alfred Kahn, *The Economics of Regulation* (John Wiley & Sons, 1970); Reza R. Dibadj *Rescuing Regulation* (State university of New York Press, 2006); Miguel Poiares Maduro and Loic Azoulay, *The Past and Future of EU Law* (Hart Publishing 2010); Douglas G. Baird, Robert H. Gartner and Randal C. Picker, *Game Theory and the Law* (Harvard University Press (1994); Eric S. Makin, *Recent Developments in Game Theory* (Edward Elgar Publishing, 1999); Eric B. Rasmusen, *Game Theory and the Law* (Edward Elgar Publishing, 2007); J.A.L. Sterling *World Copyright Law* (Thomson, 2003); Joshua Getzler, *A History of Water Rights at Common Law* (Oxford University Press, 2004); George A Gould, Douglas L. Grant and Gregory S. Weber, *Case and Materials on Water Law* (Thomson, 2005); Eugene O Kuntz, John S. Lowe, Owen L Anderson and Ernest E. Smith, *Cases and Material on Oil and Gas Law* (West Publishing, 1993); Blakely M. Murphy, *Conservation of Oil and Gas* (Arno Press, 1972); Anthony Scott, *The Evolution of Resource Property Rights* (Oxford University Press, 2008); Craig N. Johnston, William F. Funk and Victor B. Flatt, *Legal Protection of the Environment* (Thomson, 2005); Bruce W. Frier and James J. White *The Modern Law of Contracts* (Thomson, 2005)

4. A Review of Intellectual Property Law Justification

As mentioned in the introduction if the law and its application remain unchanged when the subject of the law evolves, it is almost inevitable that a conflict between the intentions of the law and outcomes of the law will emerge. In the worst case that conflict will render the laws enforcement; unproductive, unreasonable and unjust. As such when a change in the subject of the law occurs, like the change from standalone to correlated innovation, those laws need to be reviewed in order to determine if they also need to be changed.

The first consideration of such a review should focus on whether the objective justification is still valid and whether the laws protecting intellectual property are still needed. Assuming that the objective is still valid, and the laws required, the next consideration is to determine whether existing law is still suitable for the achieving the objectives. To put this review in its proper context it is desirable to first outline the justifications, and then analyse them with respect to the older and newer context of the subject. In the case of intellectual property law, the older context represents a situation where standalone innovation was the dominant innovation method and the newer context reflects correlated innovation as the dominant innovation method.

4.1 General Justifications for Intellectual Property Rights

The objective justifications themselves be divided into two different categories: one relying on pragmatic justification and the other philosophical justification.¹⁵¹ The pragmatic objective representing the physical outcomes that the laws protecting intellectual property are intended to promote and the philosophical justifications representing the moral foundations of the laws.

The pragmatic justifications include both an incentive to invent, and an incentive to disclose. The incentive to invent was based on the assumption that if innovators are provided with an exclusive right to use their invention for a sufficient time this will provide them with an opportunity not only to cover their costs, but also to earn exceptional profits and that the desire to earn those exceptional profits act as an incentive to invent. In addition to acting as an incentive to invent, this desire to earn exceptional profits would also provide innovators with sufficient incentive to disclose their invention, assuming disclosure is a condition of providing the protection. To the extent that requirements to disclose provides society with the information needed to build on past innovation, this can be viewed as an exchange between innovators and that society, in which societies provides innovators with exceptional profits for a limited time, in return for information which advances the technological capacity of that society.

This pragmatic justification is evident in all aspects of American intellectual property law, which is founded on constitutional article that empowers congress "to promote the progress of

¹⁵¹ For a more detailed discussion of intellectual property justifications see: Justin Hughes, *The Philosophy of Intellectual Property*, 77 Geo. L.J. 287, (Dec 1988), passim and William Fisher, *Theories of Intellectual Property* <http://cyber.law.harvard.edu/property00/iptheory.html>, passim

science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries".¹⁵² Further evidence of this justification can be found in United State Supreme Court cases which established the legal precedence which follow this constitutional amendment.¹⁵³ In these and the more modern cases the Supreme Court has consistently justified their ruling based upon providing authors and inventors with an incentive to invent.

Like so many other property laws, much of the philosophical justification for intellectual property law is drawn from a Locke's "theory of property."¹⁵⁴ According to Locke when a person mixes their labour with property, they create an ownership right in the property. If this ownership theory is accepted, then the same must be true when a person uses creative mental labour to produce an invention. The underlying objective of this theory is straight forward; work deserves to be rewarded. While few would contest the underlying objective of the theory there are many who would disagree with the notion that a simple mixing of labour creates ownership right. A criticism which was perhaps most clearly summarised by Robert Nozick's in 'Anarchy, State and Utopia' when he asked; if he dumped a can of tomato soup in the Pacific Ocean, did he acquired ownership of the ocean or merely loses a can of soup.¹⁵⁵ The essence of Nozick's question having to do with both; the amount of labour which need to be mixed to establish ownership, and the ownership potential of the product produced.

In the same work Nozick addressed intellectual property by observing that because innovators; create new properties rather than reducing "common property", there is no harm in providing exclusive ownership rights to that property as such rights would not violate Locke's proviso that the granting of property rights can only be done on the assumption that "there is enough and as good left in common for others."¹⁵⁶ Using this analysis he is effectively differentiating between appropriation and creation. Property appropriation being defined as the taking over control or ownership of an existing property, whereas property creation being defined as being as the production of a property which has not previously existed. His view is that because intellectual property is not appropriated from anyone, no one is hurt by providing exclusive ownership rights to innovators.

Another philosophical justification for intellectual law flows from the field of sociological jurisprudence, in which scholars like Kant and Hegel postulate that private property is crucial to the satisfaction of some fundamental human needs which provide a sense of self-worth.¹⁵⁷ With respect to intellectual property, this theory is based on the notion that because individual creations are an expression of the individual who created them, those expressions should be protected because it represents a protection of the metaphysical self. The social component of this theory contends that this individual protection will create the social and economic conditions conducive to creative intellectual activity, which is important to human flourishing.¹⁵⁸ While this metaphysical theory has been primarily used as justification for the copyright

¹⁵² Article 1, Section 8, Clause 8 of the Constitution of the United States

¹⁵³ See e.g.: *Kendall v. Winsor*, 62 U.S. (21 How.) 322, 327-28 (1858); *Motion Pictures Patent Co. v. Universal Film Manufacturing Co.* 243 U.S. 502 (1917); *Fox Film Corp. v Doyal*, 286 U.S.123, 127-128 (1932)

¹⁵⁴ John Locke, *Two Treatises of Government* (1690) (P. Laslett, ed., Cambridge: Cambridge University Press, 1970), *Second Treatise*, Sec. 27. (herein after: Locke, *Two Treatises*, (1690))

¹⁵⁵ Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974), pp. 178-82.

¹⁵⁶ *Id.* 82.

¹⁵⁷ Immanuel Kant, *Metaphysical Elements of Justice*, (1787)

¹⁵⁸ See e.g.: Margaret Jane Radin, *Reinterpreting Property* (Chicago: University of Chicago Press, 1993); Jeremy Waldron, *The Right to Private Property* (Oxford: Clarendon, 1988).

protection provided to authors and artists, it has also been used to justify patent protection of inventions.

Although the labour theory and the metaphysical theory provided the initial philosophical foundations to justify providing some form of intellectual property law protection, the exclusive or absolute form of that protection is likely driven, (either consciously or unconsciously), by Blackstonian notions of property rights. This notion is included in his "Commentaries on English Law", where Sir William Blackstone famously described property rights as "that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe".¹⁵⁹ And which endowed every Englishman with an 'absolute right, which consists in the free use, enjoyment, and disposal of all his acquisitions, without any control or diminution, save only by the laws of the land.'¹⁶⁰ At the very least this notion is entirely consistent with earlier judicial decisions which contend that 'because a patent owner could withhold their patented product from market entirely, they could also selectively withhold it from people who did not purchase their other products'¹⁶¹ and later judicial decisions which content that as a general rule, automatic injunction relief will follow findings of validity and infringement.¹⁶²

4.2 The Standalone Prospective

Assessing the validity, necessity and efficacy of legal protection from a standalone perspective provides the following conclusions.

The pragmatic justifications appear completely applicable, as an independent standalone inventor would represent an ideal candidate for a rational profit maximizing entity. If it is accepted that inventors are interested in profit maximization, then it is reasonably certain that the possibility of earning monopoly profits from their invention would provide an incentive to invent. Indeed, if the monopoly profits are significantly greater than what they would otherwise earn, it will also provide them with an incentive to disclose the workings of their invention. The first argument against this pragmatic justification would be that the granting of the monopoly with its inherent monopoly profits is redundant; as the profits which can be realised from being first to the market, while maintaining the secrecy of the invention provides enough incentive to invent. This argument conveniently ignores the fact that not all inventors have the means with which to produce and market their inventions. And when they do not have those resources; much of the value contributed by their invention would be appropriated by larger entities, which not only could dictate contract terms to inventors, but could reverse engineer their invention leaving them totally destitute. Another argument against this justification; is that there are usually other innovators which are also working on similar inventions, and as such providing a

¹⁵⁹ William Blackstone, *Commentaries on the Laws of England*, Book II, Chapter 1, (1765-1769) (herein after Blackstone, *Commentaries*, (1765-69)

¹⁶⁰ *Id.*, Book I, Chapter 1

¹⁶¹ *Henry v. A.B. Dick Co.*, 224 US 1 (1912)

¹⁶² *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, (Fed. Cir. 1989) 'Infringement having been established, it is contrary to the laws of property, of which the patent law partakes, to deny the patentee's right to exclude others from use of his property. 35 U.S.C. § 261. '[T]he right to exclude recognized in a patent is but the essence of the concept of property.' It is the general rule that an injunction will issue when infringement has been adjudged, absent a sound reason for denying it." at 1246-1247; *MercExchange, LLC., Plaintiff-cross Appellant, v. eBay, Inc. and Half.com, Inc.*, Defendants-appellants 401 F. 3d, "a permanent injunction will issue once infringement and validity have been adjudged" at 1338

monopoly disenfranchises those others from their profit maximising opportunities. However, this argument ignores the possibility that it was the incentive of being granted monopoly profits which incentivised those other inventors to do research and development on the same invention and without such protection they would simply wait for an invention to become public and then copy it.

Whether there is are valid arguments against the innovation incentive, none of these arguments generates a similar redundancy when it comes to the incentive to disclose. For commercial sense would dictate and history has shown,¹⁶³ absent the protection provided under intellectual property law, innovators will seek to maintain the monopoly profits by keeping secret any aspect of the invention which is possible to keep secret. It is worth noting that; as secrets are more easily kept by a single entity than a multiplicity of entities, this proposition may be more relevant for standalone inventions than for correlated inventions. Obviously when innovations are kept secret this restricts the possibility for other innovators to study earlier inventions, which in turn reduces society's ability to innovate which would be to the detriment of social productivity. So, whilst on its own; the incentive to invent justification could be portrayed as a disguise for an unnecessary protection of privilege, the benefits inherent in the disclosure requirements largely offset those concerns by opening up innovation opportunities to other innovators. Albeit the ability for others to fully exploit those opportunities are limited by the legal protection granted to the invention.

The Locke's labour justifications appear just, because it appears entirely fair that individuals are entitled to a reward for their creative efforts. This justness becomes even more pronounced when it is assumed those efforts result in a new product which benefit society and would not exist but for those efforts. Like the incentive to innovate, an element of this justness relies on the assumption that the invention could only be produced by one specific innovator. Also like the incentive to invent a key assumption of this argument is that, but for the creative work of inventor the invention would not have existed, which in turn is the key to justification of exclusive rights to the invention. The proposition which flows from this assumption is that granting exclusive property rights to something which would not have otherwise existed, harms no one and in fact benefit consumers because potential monopoly profits provides innovators with an incentive to invent. This assumption is particularly relevant because, unlike real property, intellectual property can be readily appropriated by others to unjustly reward themselves, leaving the original inventor without any rewards for their efforts. This ease of appropriation relating to the fact that; sole possession of the knowledge inherent in an intellectual property cannot be maintain without extraordinary levels of secrecy. Secrecy which unlike the incentive to disclose, would dramatically hinder technological advancement by depriving other innovators of the potential of building on earlier innovations.

As to the metaphysical justification there can be little doubt that the creative efforts used to produce a standalone invention represent a source of pride for innovators, and that pride would be diminished if innovators received no rewards for their inventions, particularly if the rewards were appropriated by others who had no part in their creation. Such an appropriation would not merely diminish the value of the innovative efforts by signalling that the innovations were not worthy of a reward, it would diminish the self-worth of the innovator by signalling that they

¹⁶³ The best example of this sort of technological gridlock would be the medieval trade guilds which kept secret their skill and processes for centuries thereby delaying technological advancement of their societies.

were not worthy of the rewards that are inherent in the value of their innovations. The extent of this moral degradation can be only truly appreciated when compared to the rewards others receive for their labours in other fields. If individuals in every other field are rewarded for their productive labours and innovators are not, how could any innovator not feel belittled by that lack of respect which the denial of rewards signifies?

Even the Blackstonian notions of absolute property rights appear just, when it is standalone intellectual properties which are being protected. After all, to the extent that societies would not have the invention but for the creative efforts of an innovator, what difference does it make to society if the innovator uses the exclusive rights granted under the law to withhold the invention from the market. Alternatively, what difference does it make to society if an innovator overprices their invention which suppresses demand, or underprices their invention and fails to capture all the potential monopoly profits. In all three cases society is clearly no worse off than if the invention was never created and will be better off once the protection periods expire and the invention becomes open to free and unrestricted use. Again, this analysis is based on the assumption that only a single innovator was capable of creating the invention and no other innovators were close to making the same or a similar one. If another independent innovator was about to unveil the same invention but was pre-empted by an innovator who chose to withhold his invention from the market for twenty years, society is clearly worse off. Society would also be worse off if it were the case that that second innovator would have put his invention on the market for a fraction of the price of the first.

4.3 The Correlated Prospective

Regardless of how reasonable and just these justifications are for standalone properties, the evolution from standalone towards inherently integrated inventions obviously requires a reassessment of their validity and the impact that these changes have on the achievability of their underlying objectives. For the purposes of this reassessment the working assumption will be that there exists a technological product, (for example a personal computer or a mobile phone) which has been created by integrating the inventions of multiple innovators and which is being further developed by integrating additional inventions by multiple innovators both old and new.

Beginning with the incentives to disclose. Clearly the objective of encouraging disclosure is as valid, if not more valid, when inherently integrated innovation is the dominant innovation process. This validity is derived from the obvious fact that a lack of disclosure would hinder efficient integration provided by standardization organizations and impede the development of follow-on innovations.

Unlike the incentive to disclose, the incentive to invent does not have such clear-cut validity. If there are multiple innovators working in the same technological field, it is more than likely that a number of them are working on similar inventions and this competition between innovators may render the incentive to invent redundant. That said it could still be argued that if there was no incentive to invent, there would not be multiple innovators competing to create innovations in a race to be the first to patent their innovations. At the very least such competition would be transformed from a race to be the first to be granted legal protection, into a race to be first to the market. While a race to be first to the market could provide a similar incentive for innovation, it would dramatically change the technological landscape; by severely

curtailing standardization activities, and practically eliminating the possibility of smaller independent innovators being reasonably rewarded for their invention.

Standardization activities would be curtailed because innovators would be reluctant to disclose their innovation to standardization bodies for fear of appropriation. Appropriation which would almost certainly happen if they had no legal protection.

Independent innovators would not be reasonably compensated for their inventions because they would be entirely dependent on others to bring their innovation to the market. This dependence would make them hostages to the contract terms dictated by others, contract terms which would naturally reflect the lack of any obligation to pay for the use of the invention. Further even if it is assumed that smaller independent innovators can negotiate reasonable terms with a single manufacturer, this would not provide them with protection from having their invention appropriated by other manufacturers once that manufacturer introduces it to the market. Taken together; the dictated terms and the third-party appropriation, would make it practically impossible for any smaller independent innovators to thrive, with most struggling to survive.

If these predictions prove to be true, the net effect of relying on first to market would involve; a fragmented technology field, dominated by a few large manufacturers, with the potential contributions of independent innovators laying fallow across the technological field. While such a scenario would undoubtedly reduce speed of innovation and lessen the functionality of technological products; the greatest loss would be the loss of innovative spirit that the collapse of independent innovation would entail. It is for these reasons that the validity of the incentive to invent remains relatively intact even with an evolution towards inherently correlated innovation process.

It should be noted that even though the incentive to invent remains valid with respect to a correlated innovation process, this does not mean that the protections provided by intellectual property law always incentivise invention. There are at least three circumstances whereby the legal protection provided under intellectual property law can and have been used to discourage innovation. The first of these circumstances occurs when innovators use the patent system to create a patent fence which prevents other innovators from actively pursuing follow-on inventions that they themselves have no interest in actively pursuing.¹⁶⁴ The second is when patent owners use the threat of injunctive relief to appropriate for themselves rewards in excess of the value of their inventive contribution to an inherently integrated technological product.¹⁶⁵ And the third is when manufactures practice legal attrition in order to avoid paying reasonable royalties to smaller innovators who cannot afford to sustain lengthy litigation.¹⁶⁶ However as each of these circumstances clearly represents an action intended to undermine the intent, these should not be considered to be disqualifiers of this justification, rather they ought to be considered an abuse of law.

With respect to the labour justification, there would appear to be no reason to presume that the labours of multiple innovators working on an integrated technology are less deserving of rewards from that labour, than a standalone innovator. The only difference is that the total

¹⁶⁴ See e.g.: Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts: Rethinking Patent Claim Construction*, 157 University of Pennsylvania Law Review 1743 (2009).

¹⁶⁵ See e.g.: Lemley, Mark A. and Melamed, A. Douglas, *Missing the Forest for the Trolls* (May 23, 2013). Columbia Law Review

¹⁶⁶ See for example; Chief Judge Randall R. Rader, IP Leaders Forum, Aug. 15, 2012

maximum aggregate value (maximum monopoly profits) of the technology in a product must be shared between multiple innovators, rather than reserved for a single innovator. This caveat is significant because there is a maximum monopoly profit available from a single technological product which remains the same regardless of how many innovators have contributed their inventions to that technological product.

In effect it becomes a zero-sum game whereby rewards received by one innovator automatically, reduce the potential aggregate rewards available to other innovators. Under this zero-sum game if any innovator(s) receives more than the value of their contribution, they will either directly or indirectly be appropriating any excess rewards of other innovators. They will be directly appropriating rewards when excessive licensing fees reduce the profit which an integrated innovator/manufacturer should have earned on their own contribution. They will be indirectly appropriating rewards when their excessive licensing fees are passed on to consumer, thereby reducing consumer demand to the detriment of all innovators who have contributed to the technology. It should be noted that this maximum aggregate value can rise when additional properties are integrated with an existing technological product, as this effectively creates a new technological product. However, this new product will also have new maximum monopoly profit which will also have to be distributed fairly amongst the various innovators.

There is one obvious aspect of this labour justification which can be easily overlooked and when intentionally overlooked ought to be considered a sophistry. That aspect revolves around the notion that there needs to be a correlation between the productivity of the labour and the amount of the reward. This correlation is particularly evident in Locke's advocacy of European Colonial rights in North America.¹⁶⁷ Basically his argument was that merely hunting and gathering on the land did not endow ownership rights, rather it was only through working the land to increase its productivity that ownership rights could be established. Despite the controversial nature of North American land appropriation, the underlying sentiment that ownership ought to be correlated to the productivity of the effort is clear. In the case of integrated intellectual property this correlation obviously must take into consideration not only; the proportion of the total integrated inventions which the innovator's inventions represent, but also the importance of those inventions to the product. To do otherwise would undermine this justification.

The same presumption is applicable to the metaphysical justification. Just as there is no reason to presume that an innovator will not be proud of their integrated invention, so too, there is no reason to presume that their self-worth would not be harmed if another innovator appropriated the rewards they ought to have received for their contribution. Indeed, the thought that it was an integrated manufacturer which was contributing to the same technological product who appropriated their rewards would likely increase the sense of injustice; as it would not be innovative efforts in general, but only their innovative efforts which were not being properly rewarded. Returning to a patent race metaphor, it would be equivalent to a relay team winning a relay race and one or more team members taking two gold medals, leaving one or more of their teammates without the metals. Metals which those teammates had helped to win, and as such were entitled to receive. As with the metaphor, justice demands that each innovator who has contributed to an integrated result is entitled to their fair share of the rewards. A fair share of the rewards being defined as; a share of the aggregate available rewards

¹⁶⁷ Locke, *Two Treatises*, (1690) Second Treatise, Sec. 27.

which is proportionate to their contribution to the total integrated invention. Any more than this proportionate share would result a direct or indirect appropriation from other innovators, any less is an appropriation of their rewards. Such proportionality signifying a correlated relationship between an innovator's inventive contribution and the aggregate inventive contributions of all the innovators who have advanced the technological product.

Whilst a correlated relationship is entirely consistent with both the labour and metaphysical justifications, it is obviously incompatible with Blackstonian concepts of absolute property rights. Indeed, to whole notion of absolute property rights would appear to be entirely contradictory to any and all activity in which multiple participants work together to accomplish a desired result. Obviously if every participant in a joint effort were to be granted absolute ownership of that total effort this would result in overlapping and conflicting ownership claims. However, an almost identical problem arises when individual owners are granted absolute property rights over their individual properties in an integrated property. This because if absolute rights provide every owner with the right to determine whether, and on what terms their contribution can be used, it must also effectively grant every owner with the right to determine if, and on what terms the entire integrated property can be used. Indeed, so long as their property is inseparable from an integrated property, absolute property rights to individual parts, provide every owner with rights which are almost indistinguishable from absolute property rights to the total integrated property.

In economic theory this circumstance is described as a 'Tragedy of the Anti-commons'¹⁶⁸. It is called a tragedy because the theory suggests that when too many individuals have veto rights over the use of a property, it is almost inevitable that the property becomes unused or underused. In the field of real property examples of this tragedy are found when property owners refuse to allow their property to be used for a large infrastructure projects, or alternatively when they demand such excessive prices for their property that it renders the project unprofitable. Unsurprisingly this type of behaviour is not protected by most western legal systems which have established 'eminent domain' legislation that is used to force unreasonable owners to sell their property at reasonable prices, so that the common goods like; roads, airports and hospitals, can be built.

In the field of intellectual property there are two somewhat misleading terms that are used to describe the situation. The first of these is "royalty stacking".¹⁶⁹ Although it can be considered to be a neutral description of the fact that integrated technologies are subject to more royalty claims, it can also be interpreted as suggesting that integrated technological products are less desirable because there will be multiple patent claims stacked up against and preventing companies from bringing products to the market. Whether this negative connotation is intended, a negative connotation is certainly the intent of the second term which refers to the multiple patent claims inherent in integrated technologies as a "patent thicket." This is an abbreviation for the notion that integrated technologies create a 'dense web of overlapping intellectual property rights that a company must hack its way through in order to actually

¹⁶⁸ The leading authority on the concept of a Tragedy of the Anticommons is Michael Heller who's works includes: "The. *Harvard Law Review*. con (1998) (herein after: Heller, *Tragedy of the Anticommons*, (1998)) and '*Gridlock Economy; How Too Much Ownership Wrecks Markets, Stops Innovation and Costs Lives*'. Basic Books (2008) (hereinafter: Heller, *Gridlock Economy*, (2008))

¹⁶⁹ Lemley and Shapiro, Patent Holdup and Royalty Stacking (2007)

commercialize new technology'¹⁷⁰. Where terms like this go wrong, and why can be considered to be misleading, is that they suggest that it is somehow it is the quantity of the patents and patent owners, which is the problem.¹⁷¹

In real property this would be like implying allowing individual ownership of houses in a town, is somehow worse than if all the house were owned by one entity and residents simply rented their accommodation from that entity. Ironically this implication would be accurate if every land owner had an absolute right to do whatever he wanted with his property. If enough of them prevented roads, sewers, water and electrical systems from being built on their property, the town would be uninhabitable. Alternatively, if they had an absolute right to build a pig farm on their property in the centre of town, this too would make the town undesirable. The reason why individual home ownership is possible, is because of obligations and restriction that municipalities place on those individual home owners. Although this directly contradicts the rhetorical notions about "my home is my castle" there can be no doubt that some obligations and restrictions are essential to facilitating an efficiently functioning community.

What is missing in this terminology related to intellectual property is a recognition that it is not the quantity of the patent claims which is the problem, but rather how those claims are treated under the law. To illustrate this deficiency, one only need to observe the problems which arise when two competitors who both have patents which are essential to a technological product are unwilling to work with each other. Under an absolute/exclusive property rights system, the product would not be legally made or could be made only by ignoring the legal protection provided by those rights.¹⁷²

Even when innovators are willing to work together there is high likelihood that at least one will use their absolute property rights to demand royalties substantially in excess of the value of their invention contribution. They can do this by threatening to take injunctive actions against any manufacturers which are unwilling to yield to their excessive demand. While the innovators which engage in this type of behaviour were initially referred to as 'patent trolls', more recently they have been described in the courts as 'non-practicing entities'. Although the change in reference likely has to do with the unacceptability of such a pejorative term as 'troll' in the court room proceedings, the former is a much more appropriate description of the behaviour, and the latter misleading. The former is more appropriate because like their mythical counterparts, patent trolls stand guard over their property and charge excessive rates to anyone who *must* use it. The latter is misleading because it does not matter whether contributing innovator manufactures the technological product, what matter is if they charge a reasonable royalty for the use of their contributions. Regardless of the name which is applied; the reality is that when innovators are granted an absolute property rights this inherently grants them access to unrestricted injunctive relief which can be abused to extort excessive royalty payments from manufactures. Given that those excessive payments must come either directly or indirectly from other innovators, this must be a breach of their own absolute property rights. This inherent conflict between the absolute property rights of integrated innovators demonstrates why the

¹⁷⁰ Shapiro, *Navigating the Patent Thicket*, (2000) at 119.

¹⁷¹ Clarkson, Gavin, and D. A. V. I. D. DeKORTE, *The problem of patent thickets in convergent technologies*, *Annals of the New York Academy of Sciences* 1093.1 180-200 (2006) '. When a given organization has all of the necessary patents to develop a given technology, it can proceed without intellectual property entanglements. When multiple organizations each own individual patents that are collectively necessary for a particular technology, however, their competing intellectual property rights form a "patent thicket"' at 181

¹⁷² Chapter 7 describes how this situation hampered the aircraft industry.

Blackstonian notions of absolute property rights is incompatible with an integrated innovation process.

Despite the incompatibility of the Blackstonian concept of absolute property rights with an integrated innovation process, the fact that all the other historic justifications for intellectual property remain valid is encouraging. For this means that integrated innovators will almost certainly be able to continue to rely on the legal system to protect their inventions from appropriation. The only difference is that rights provided under that system will have to consider the integrated nature of their invention, and as such respect the rights of others.

5. Theoretical Illusions and An Alternative Theory

'If we economists were given less to wishful thinking and more to the observation of facts, doubts would immediately arise as to the realistic virtues of a theory that would have led us to expect a very different result.'¹⁷³

One of the biggest obstacles to finding solutions to the inadequacies of current application of intellectual property law is that any proposed solution inevitably runs aground on ideological positions and economic theories held by judges which have been used for decades to justify a property owner's absolute/exclusive right to property and by extension the absolute right to maximise the profit from their property.¹⁷⁴ Although significant changes in circumstances should nullify or at least alter the beliefs of the judiciary, all too often these changes are either; not brought to the attention of the court or are ignored by the court because the, '[l]aw is suffused with ideology'.¹⁷⁵ It is because ideology can play such a central role in determine outcomes, that the ideological theories themselves need to be addressed.

While one of these theories is used to describe the justifications for intellectual property law provided in the previous chapter, the other three are economic theories are can be considered part of the ideological beliefs which support the application of absolutist intellectual property rights. These four theories are; John Locke's "Theory of Property",¹⁷⁶ Adam Smith's "Invisible Hand",¹⁷⁷ Ronald Coase's "Coase Theorem"¹⁷⁸ and Joseph Schumpeter's "Gale of Creative Destruction."¹⁷⁹ Given the reliance of absolutist intellectual property law on these theories it would appear that the invalidity of the absolute right interpretations of these theories, must be demonstrated before applying correlated intellectual property rights for correlated intellectual properties can be considered. This therefore will be the objective of the first part of this chapter which titled theoretical illusions.

Obviously, it would be convenient if there was an established theory which could be used to replace the flawed interpretation of the theories listed above, but unfortunately there is not. There is however one new theory, also mentioned in the previous chapter, that at least focus on issue of multiple owners of correlated properties. That theory which was developed by Michael Heller's is called the "Tragedy of the Anti-Common".¹⁸⁰ This theory cannot be used as a

¹⁷³ Joseph A. Schumpeter, *Capitalism, Socialism and Democracy*, (New York: Harper, 1975) [orig. pub. 1942], p. 81 (herein after: Schumpeter, *Capitalism, Socialism and Democracy*, (1942))

¹⁷⁴ Richard Posner, *How Judges Think*, (Harvard University Press, 2008) "the Court simply thought government interference with property rights a worse affront to personal liberty than segregation of schools and other facilities" at 27

¹⁷⁵ *Id.* 'Law is suffused with Ideology. The true middle ground, as long ago explained by Roscoe Pound, is a tripartite conception of law as legal doctrines (rules and standards), techniques for deriving and applying doctrines (techniques such as *stare decisis*—decisions according to precedent—which often means distinguishing of overhauling precedent) and social and ethical (in a word, policy) views.' at 43

¹⁷⁶ Locke, *Two Treatises*, (1690)

¹⁷⁷ Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, (Scotland, William Strahan and Tomas Cadell, 1776) (herein after: Smith, *Wealth of Nations* (1776))

¹⁷⁸ Ronald Coase, *The Problem of Social Cost* (The Journal of Law and Economics, October 1960)

¹⁷⁹ Schumpeter, *Capitalism, Socialism and Democracy*, (1942)

¹⁸⁰ Heller, *Tragedy of the Anticommons*, (1998)

replacement for the theories listed above, because Heller has relied on absolutist theories to portray situations where correlated property ownership occurs as a tragedy. However, if one strips out the preconceptions about the absoluteness of property rights from Heller's theory, and replace that with the concept of correlated property rights, this modified theory creates a "Triumph of the Anti-Commons". It is this authors contention that the Triumph of the Anti-Commons represents perhaps the best response to and replacement of the flawed absolutist interpretations.

Given the originality of the Triumph of the Anti-commons and the relative novelty of the Tragedy of the Anti-Commons in legal thinking, there is perhaps a requirement to provide a more comprehensive analysis of these theories than would usually be required in a legal thesis. As such the second part of this chapter will open with an analysis of the original economic theory which predates the Tragedy of the Anti-Commons, called the Tragedy of the Commons,¹⁸¹ and its counterpart the Comedy of the Commons¹⁸² before moving on to an explanation of the "Tragedy of the Anti-Commons" and how that can be modified to generate the "Triumph of the Anti-Commons."

5.1 Theoretical Illusions

When initiating an analysis of the validity of any theory it is perhaps useful to be view them along the continuum that was proposed by John Maynard Keynes in his *Thesis on Probability*.¹⁸³ In that thesis he differentiated between what he called mere belief and rational belief. Mere beliefs he defined as those beliefs that are entirely subjective in nature and requires no supporting evidence. This definition would suggest that mere belief represent nothing more than unjustified speculation based on uniformed opinion. At the other end of his belief continuum, Keynes places certain rational belief. As far as Keynes was concerned rational belief was an objective concept depending on all available evidence, which was overwhelmingly in its favor. Given this definition of certain rational belief, it could be suggested that it represents the closest thing to actual truth or knowledge. Obviously, most beliefs fall in the space between these two extremes. Usually there is at least some kernel of evidence that supports what would otherwise be called a mere belief and some evidence that can be used to dispute what would otherwise be called a certain rational belief. The extent of that evidence determines where on the belief continuum any particular belief should lie.

It should be noted that the existence or absence of evidence does not necessarily determine if a belief is true or false. It is entirely possible for a mere belief to be true for reasons unrelated to the belief. Just as it is entirely possible for a rational belief to be false, if unknown evidence were to be subsequently discovered which contradicted the belief. As such while Keynes's belief continuum cannot be called a truth continuum, it can be called a rational thought continuum. Keynes expressed this idea as follows:

"If a man believes something for a reason which is preposterous or for no reason at all, and what the man believes turns out to be true for some reason not known to him, he cannot be said to believe it rationally, although he believes it and it is in fact

¹⁸¹ Garrett Hardin, *The Tragedy of the Commons*, Science 162 (3859): 1243–1248. [1968]

¹⁸² Rose, Carol M., "The Comedy of the Commons: Commerce, Custom, and Inherently Public Property" (1986)

¹⁸³ John Maynard Keynes, *A Treatise on Probability* originally published in 1921 (London, Forgotten Books, 2012)

true. On the other hand, a man may rationally believe a proposition to be probable, when it is in fact false. The distinction between rational belief and mere belief therefore is not the same as the distinction between true and false beliefs. The highest degree of rational belief is termed certain rational belief, corresponding to knowledge. We may be said to know something when we have certain rational belief in it, and vice versa.¹⁸⁴

While there are many economists who would argue with Keynesian economic theories, even his most ardent critic ought to be able to support his straightforward idea that rational beliefs need to be based on actual evidence and when there exists evidence which contradicts a belief, the rational response must be to change that belief in order to conform with the evidence.

A similar reliance on rational thinking and evidence is expected in every science when theories are tested. In science most propositions are called theories because it is seldom possible to prove absolutely that they are true in all circumstances. If it can be shown that they are true in all circumstances, they are referred to as laws. In economics there is only really one theory which can be considered as representing a law and that is the price theory of supply and demand. This theory states that if there is more supply than there is demand, price will go down and if there is less supply than there is demand, prices will go up.

However just because it is difficult to prove a theory, this does not mean that it is difficult to invalidate a theory. All that is required to invalidate a theory is to show that there are circumstances when the theory is invalid. When this happens it automatically invalidates the theory, even if the theory remains true for the original circumstances. When a theory is invalidated, it can either be modified to exempt the situation, or its claims can be modified such that the invalid claims are eliminated. In either of these instances a different theory is created, which also can be tested against evidence to determine if it is valid.

What should not happen when a theory is invalidated; is to claim that the theory is still valid, in its entirety. Obviously when this occurs, it means that the evidence proving the partial invalidity of the theory is being ignored, and this cannot be defined as science, merely the illusion of science. It is this illusion that is being referred to in the section of this chapter. For to suggest that the four theories used to support absolute property rights were entirely invalid could and should be construed as sophistry.

5.1.1 Locke's Theory of Property

As mentioned in the previous chapter, according to Locke's theory of property when a person mixes their labour with property, they create an ownership right in the property.¹⁸⁵ The most cited passage of this theory is provided in Chapter V of his work which describes outlines his theory as follows:

'Though the earth, and all inferior creatures, be common to all men, yet every man has a property in his own person: this nobody has any right to but himself. The labour of his body, and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his

¹⁸⁴ *Id.* (p10)

¹⁸⁵ Locke, *Two Treatises*, (1690)

property. It being by him removed from the common state nature hath placed it in, it hath by this labour something annexed to it, that excludes the common right of other men: for this labour being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good, left in common for others.¹⁸⁶

He then immediately provides an example of the practical aspects of this theory in his next section:

'He that is nourished by the acorns he picked up under an oak, or the apples he gathered from the trees in the wood, has certainly appropriated them to himself. No body can deny but the nourishment is his. I ask then, when did they begin to be his? when he digested? or when he eat? or when he boiled? or when he brought them home? or when he picked them up? and it is plain, if the first gathering made them not his, nothing else could. That labour put a distinction between them and common: that added something to them more than nature, the common mother of all, had done; and so they became his private right. And will any one say, he had no right to those acorns or apples, he thus appropriated, because he had not the consent of all mankind to make them his? Was it a robbery thus to assume to himself what belonged to all in common? If such a consent as that was necessary, man had starved, notwithstanding the plenty God had given him. We see in commons, which remain so by compact, that it is the taking any part of what is common, and removing it out of the state nature leaves it in, which begins the property; without which the common is of no use. And the taking of this or that part, does not depend on the express consent of all the commoners. Thus the grass my horse has bit; the turfs my servant has cut; and the ore I have digged in any place, where I have a right to them in common with others, become my property, without the assignation or consent of any body. The labour that was mine, removing them out of that common state they were in, hath fixed my property in them.'¹⁸⁷

There can be no question that his assessment that "every man has a property in his own person" is correct. There can also be little question that his assessment that "the work of his hands, ... are properly his" is also correct. However, his third pronouncement that "Whatsoever ... he hath mixed his labour with, ... excludes the common right of other men: for this labour being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to" can and should be challenged. The primary challenge being that it is based on upon on a description of history which has never really existed.

To the extent that there are actual records available of human activity and social behaviour since the dawn of time, what those records reveal is an evolutionary trend in property rights which for the most part contradict Locke's description of the state of nature and certainly contradict his absurd suggestion that needing "the consent of all mankind to make them his" is the only alternative to how property rights are created. Somewhat surprisingly despite the obviousness of these flaws, modern libertarian movements throughout the world still rely on

¹⁸⁶ *Id.* Chapter V, Sec 27.

¹⁸⁷ *Id.* Chapter V, Sec 28

this flawed logic to promote absolute property rights. An example of which is can be found on the Libertarian web site, libertarianism.org¹⁸⁸ which provides the following analysis on their pages covering Locke's Theory of Property;

'The acorns became the private property of the owner when he picked them up, for it was in the gathering that labor was first expended. "That *labour* put a distinction between them and common. That added something to them more than Nature, the common Mother of all, had done, and so they became his private right." But this raises a crucial question: "Was it a Robbery thus to assume to himself what belonged to all in Common?" Locke replied that to require universal consent would lead to universal starvation. More is involved here than the practical problem of obtaining the permission of every person on earth. Morally speaking, such consent is not required because, according to both reason and revelation, humans "have a right to their Preservation." Thus if even the right to eat acorns and other natural goods could not be morally justified without first obtaining the consent of every commoner, "Man had starved, notwithstanding the Plenty God had given him"¹⁸⁹

The surprising pervasiveness of this mentality was one of the major reasons why it was thought to be necessary to construct the a more realistic analysis of the historical evolution of property rights which is included in the chapter fifteen.¹⁹⁰ Using that continuum to assess the illusions in Locke's Theory provides the following observations.

During the communal stage of the common phase of property rights, which is the phase which supposedly corresponds to the period when Locke's private property rights were established, the hunters and gathers of communities shared the resources provided by nature with each other in order to survive. For a lone member of the society to suggest to the other members of those societies, that they were unwilling to share their "acorns" with the community would be unthinkable. Even if such a claim were made, it is likely that it would result in the exile of the member which would mean their imminent death, as without community support it is highly unlikely they would be able to survive for long.

During the tribal stage of the common property phase, a member which insisted on their private property right to the crops grown in fields they cultivated, but which were established through a communal effort, would likely lead to the that same exile. The only difference being that exile would be dictated by the tribal rulers rather than the members of the tribe. Even if it did not lead to exile such selfishness would lead to member being ostracised. Assuming that they were to survive exile or ostracism, it would stroke up such resentment that remaining tribal members may choose to simply to bring the resource back into tribal use through force, which was the defining component of the next stage.

During the during the warlord stage of the concentrated property phase, the idea that a lone member could claim private property rights to something which a warlord claimed belonged to him is at best naive. During this stage the determining factor for claiming ownership was and is brute force. Any property which could not be defended was taken and any society which could not defend against invading warlords lost their property rights and usually their freedom.

¹⁸⁸ www.libertarianism.org, last viewed on 26.11.2013.

¹⁸⁹ www.libertarianism.org/columns/john-locke-justification-private-property, last viewed on 26.11.2013

¹⁹⁰ 15. A Theoretical Property Continuum

The royal property stage of the concentrated property phase was almost identical to the warlord property stage except that the military might of the King was augmented by divine authority. In this stage, the King's property rights were absolute and unauthorised taking of "acorns" from the King's forest could result in severe punishment. It is worth noting that Locke wrote his treatises to refute the absolute property right claimed by Kings, but his does not mean that the Kings accepted his theory on property.

During the noble property stage of the concentrated property phase, the King's property claims were to a large extent merely replaced by property claims of barons and other high-ranking officials in the regime. While this dispersed the ownership of property within the royal ranks, it still based property rights on might and divine authority, leaving ordinary members of society at the mercy of their respective local leaders.

Even during the aristocratic property stage of the concentrated property phase, property rights were still predominantly determined by royal decree and not by the application of private property theory advocated by Locke. An excellent example of this would be the salt taxes collected under Royal Charter provided to the British East India Company. Whereas under Locke's theory of property, when Indians used their own labour to produce salt this should have resulted in the salt produced being their property. However, under the Charter such creation of private property was prohibited, as salt importation and production were the sole right of the British East India Company. A right which was not change until the salt protests by Ghandi in the 1930's.

Counter intuitively, although there is little or no historical foundation in Locke's theory, this does not mean that his theory is not valid. As noted earlier, Keynes acknowledges just because a theory is not supported by evidence this does not mean that the theory cannot be true. Indeed, if Locke's theory is viewed more as a new principle for establishing property rights rather than a historical description of how they were established, it would be rational to theorize that the mixing of labour is an entirely appropriate way of determining property rights. Which bring the analysis around to the universal phase of the property continuum.

To the extent that Locke's principles were applied in the universal property stage, they can be considered to be most closely adhered to in the first free market stage of that phase. After all it was during this stage that the Americas were developed to a large extent by homesteaders and miners who used their labour to create farms, ranches and mines, in what was the closest thing to Locke's common property description. While the taking of this land from the natives of America certainly breached his principles, there can be no denying that providing private property rights to individuals based on their efforts in developing a property, greatly accelerated the development of that property.

It should however also be pointed out that that those property rights did not miraculously appear as a result of natural law, but rather were provided as a result of the consent provided by the local community. This local consent obviously totally contradicts the notion that the only alternative to establishing private property rights through natural law is seeking "consent of all mankind to make them his". The opportunity of gain local consent also means that consent could be altered, if it turns out that the rights provided are detrimental to the local community. Which is preciously what happened in the subsequent stage of on the property continuum.

At the end of the free market stage the use and abuse of absolute property rights resulted in a few industrialists owning vast swaths of industries. Which in Locke's terms meant that there was not "enough, and as good, left in common for others." While free market supporters deny

the impact of this growing income inequalities, Keynes pointed out, and common-sense dictates, that when wealth is too unevenly distributed; 'those that have too much don't spend enough or spend it unwisely, others will have nothing to spend, all of which lead to a drop in aggregate demand.'¹⁹¹ This drop in aggregate demand leads to a vicious cycle of decreased sales, which leads to layoff which leads to decreased sales, and further layoffs. This observation provides the most credible explanation for the global depression that shook the world in the 1930's. That this foreseeable outcome was not anticipated by Locke, can be directly attributed to his willingness to disregard the sharing of properties which assisted in the survival of early societies, and subsequent unwillingness to expand on how property rights should change when there is not "enough, and as good, left in common for others."

As a result of the depression most societies decided they would abandon absolute property rights, with some going so far as to issue directives on the use of private property for the common good of their communities. This directed property stage was followed by a regulated and then a supervised property stage, as the initial regulations imposed were gradually decreased. It should be further noted that during these stages some societies experienced the strongest economic growth in their history. These stages are important with respect to Locke's theory as they provide historical evidence; that even if societies determine that mixing labour creates property rights, that does not automatically suggest that those property rights must be absolute.

It is these observations which illustrates the illusion with respect Locke's theory. For by analysing history, it is easy to find evidence which contradicts the theory that natural law dictates mixing labour with property creates an absolute property right in that property which are independent of society and cannot be limited. If anything, history indicates to that early societies were reliant on sharing resources which the collective community needed for its survival, and that *absolute property rights which allow owners to disregard community interests were a historic anomaly which was created by the dictatorial brute force of warlords and tyrannical kings*. It also indicates that after societies granted private property the rights to all their members, they eventually limited those rights in order to avoid abuses which were detrimental to local community.

This of course does not mean that the primary principle included in Locke's theory is invalid. For even without absolute rights it would appear reasonable to accept the principle that when a person mixes their labour with a property this create some form of property right in that property, just not always an absolute right, and certainly not an absolute right if others have also mixed their labour with property.

This illusion and its removal clearly have implication for intellectual property. Just as with the evolution of any other property rights, the provision of absolute intellectual property rights and limitation on those rights are related to the nature of the property which is owned. So, while absolute property rights might be completely appropriate for standalone intellectual property, an application of the correlated rights doctrine to correlated intellectual property is only made possible by removing that illusion.

¹⁹¹ John Maynard Keynes, *The General Theory of Employment, Interest and Money*. (1936)

5.1.2 Adam Smith's "Invisible Hand"

While the "invisible hand" is usually reference in Smith's *Wealth of Nations*¹⁹² the first time Smith used the term was seventeen years earlier in *The Theory of Moral Sentiments* published in 1759.¹⁹³ In the passage where it is included it is used to describe the behaviour of a rich land owner.

'It is to no purpose, that the proud and unfeeling landlord views his extensive fields, and without a thought for the wants of his brethren, in imagination consumes himself the whole harvest that grows upon them. The homely and vulgar proverb, that the eye is larger than the belly, never was more fully verified than with regard to him. The capacity of his stomach bears no proportion to the immensity of his desires. The rest he will be obliged to distribute among those, who prepare, in the nicest manner, that little which he himself makes use of, among those who fit up the palace in which this little is to be consumed, among those who provide and keep in order all the different baubles and trinkets which are employed in the economy of greatness; all of whom thus derive from his luxury and caprice, that share of the necessaries of life, which they would in vain have expected from his humanity or his justice.

The produce of the soil maintains at all times nearly that number of inhabitants which it is capable of maintaining. The rich only select from the heap what is most precious and agreeable. They consume little more than the poor, and in spite of their natural selfishness and rapacity, though they mean only their own conveniency, though the sole end which they propose from the labours of all the thousands whom they employ, be the gratification of their own vain and insatiable desires, they divide with the poor the produce of all their improvements.

They are led by an *invisible hand* to make nearly the same distribution of the necessaries of life, which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus without intending it, without knowing it, advance the interest of the society, and afford means to the multiplication of the species.¹⁹⁴ [Italics added]

One way this passage can be interpreted is to suggest that Smith is simply attempting to justify the unequal distribution of wealth prevalent at the time of writing, by invoking something in modern terms would be called the "trickledown economics".¹⁹⁵ However the overall tone of this passage would tend to contradict that interpretation, for in it he is clearly questioning the distribution of property. As such the passage can be read; not as an apologist for the wealth, but as a lamentation of the fact that the poor were dependent on the " the gratification of [rich land owners] own vain and insatiable desires" for their " necessities of life".

Seventeen years later, in the year of America's independence, the term appears to take on a much more positive connotation in his *Wealth of Nations*. Given the timing, there is every possibility that this more positive connotation was a direct result of a Scotsman reflecting on the

¹⁹² Smith, *Wealth of Nations* (1776)

¹⁹³ Smith, Adam, *The Theory of Moral Sentiments*, 1759. (Library of Economics and Liberty. 30 November 2016.) Retrieved November 30, 2016

¹⁹⁴ *Id.* Part IV, Chapter 1,

¹⁹⁵ Semper, *Adam Smith's Invisible Hand*, (On Second Thought 2014) Last viewed November 30, 2016

potential positive implications of America Revolution and seeking to enlighten the world about how a nation could operate outside the control of the landed gentry.

In his *Wealth of Nations* Smith essentially argues that the welfare of a nation is best advanced by allowing the free market to determine optimal levels of production and consumptions of goods. In this work an "invisible hand" is described as a positive force by suggesting; that if consumers can freely choose what to buy and producers can freely choose what to sell and how to produce it, the market will settle on a product distribution and prices that are beneficial to all the individual members of a community, and hence to the community as a whole. This reasoning being articulated by Smith in his most famous quote;

'It is not from the benevolence of the butcher, the brewer or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantage'¹⁹⁶

Smith uses the actual term invisible hand in a later quote when he wrote:

"As every individual, therefore, endeavours as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by *an invisible hand* to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good. It is an affectation, indeed, not very common among merchants, and very few words need be employed in dissuading them from it." [Italic Added]¹⁹⁷

According to this theory because the butcher, the brewer and the baker must provide their goods and services in a free market, they will have to produce them in an efficient manner and sell them at a fair price, otherwise their customers will buy their products from their competitors who provide the same products at better prices either because they produce them more efficiently and/or price them more competitively. Further because these competitors are constantly competing for customers they will continuously seek more efficient means of producing their products which will result in better prices for consumers therefore benefiting the entire community. Finally, because the most efficient commercial enterprises will have the earn the highest returns for their owner's investors will provide them with necessary financing to enable further efficiencies. This dynamic and automatic market adjustment power representing the invisible hand of capitalism.

¹⁹⁶ Smith, *Wealth of Nations* (1776), Book I, Chapter II, 19

¹⁹⁷ *Id.*: Book IV, Chapter II, 488-489

The illusion which arises out of this theory and one which to free market supporters perpetuate, is the notion that because the invisible hand ensures that markets are competitive, there is no need for governments to interfere in the market. Indeed, that government involvement will be counterproductive to the interest of society. Examples of this illusion are many, but it is worth quoting two implicit and explicit examples of it here:

'Adam Smith's flash of genius was his recognition that the prices that emerged from voluntary transactions between buyers and sellers - for short, in a free market - could coordinate the activity of millions of people, each seeking his own interest, in such a way as to make everyone better off. It was a startling idea then, and it remains one today, that economic order can emerge as the unintended consequence of the actions of many people, each seeking his own interest.'¹⁹⁸

'the free market allows more people to satisfy more of their desires, and ultimately to enjoy a higher standard of living than any other social system... We need simply to remember to let the market process work in its apparent magic and not let the government clumsily intervene in it so deeply that it grinds to a halt.'¹⁹⁹

What this illusion ignores is any issues related to the inequality of property ownership which Smith initially lamented, and the many incidence of market failure which can occur in imperfect markets. It should be noted that what many free market supporters conveniently ignore is Smith's own concerns about potential market failures. In particular, they ignore his comments on the potential power of market participants to avoid the free market through collusion.

'People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices. It is impossible indeed to prevent such meetings, by any law which either could be executed, or would be consistent with liberty or justice. But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies; much less to render them necessary.'²⁰⁰

Included in this quote is an expression of the inability of government to prevent market collusion and a hint of its tendency to exacerbate it. These sentiments toward government regulation were expanded in his specific quotes on regulation which were;

'The proposal of any new law or regulation of commerce which comes from this order, ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention. It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.'²⁰¹ and 'To give the monopoly of the home-market to the produce of domestic industry, in any particular art or

¹⁹⁸ Milton Friedman and Rose Friedman, *Free to Choose*, (Harcourt, 1980) 13-14

¹⁹⁹ David Boaz, *Libertarianism, a Primer*, (Free Press 1998) 40, 185

²⁰⁰ Smith, *Wealth of Nations* (1776): Book I, Chapter X, Part II, 152

²⁰¹ *Id.*; Book I, Chapter XI, Part III, 292

manufacture, is in some measure to direct private people in what manner they ought to employ their capitals, and must, in almost all cases, be either a useless or a hurtful regulation.¹²⁰²

That Smith should be predisposed to a negative view government regulation should not be surprising; given the blatant biases shown by government meddling during the aristocratic property stage and their propensity of grant extremely valuable trade charters to the aristocratic class.²⁰³ However this does not mean that he thought that governments should not interfere, only that any government interference should be closely scrutinised to determine whether it was a privilege disguised as something in the common good.

To be fair to the neo-conservative economist it must be admitted that while some promote this illusion others do not. Most notable amongst those that do not was Friedrich Hayek, who is considered by many to be the founder of neo-classical economics. In his 1946 books *The Road to Serfdom*.²⁰⁴ Hayek warned about the dangers of big government, but also includes the following passages:

'The successful use of competition as the principle of social organization precludes certain types of coercive interference with economic life, but it admits of others which sometimes may vary considerably assist its work and even requires certain kinds of government action.'²⁰⁵ and 'In no system that could be rationally defended would the state just do nothing.'²⁰⁶

Such an understated comment indicates a clear recognition of the possibility of market failure, and the possibility of government involvement in the market to correct those failures.

In traditional economics a market failure is defined only as 'The failure of an unregulated market to achieve an efficient allocation of resources'²⁰⁷ In layman's terms this means that the markets product too much of one product and not enough of another. However, added to that traditional definition must be any market behaviour which destabilises the market, or is detrimental to society as a whole.

A brief summary of some of the identified causes of market failures are as follows:

Traditional Market Failures

- **Ill-defined Property Rights:** When property rights are not clearly defined it makes it very difficult to sell a product in a market as both buyers and sellers are unsure of what they are trading. Even when they are traded there is likely to be significant transaction costs as buyers and sellers will interpret the property rights in their favor, to reduce or increase the price respectively. Outside parties may also interfere in the transaction costs by contesting the legitimacy of the entire transition. All of which mean that market does not properly form, and the price and quantities traded will be suboptimal.

²⁰² *Id.*; Book IV, Chapter II, 489

²⁰³ A description of some of these Charters is provided in the Aristocratic Property Stage discussed in Chapter 14.

²⁰⁴ Friedrich Hayek, *The Road to Serfdom* 1944 (Routledge Press, UK. University of Chicago Press, US 1944) (herein after: Hayek, *Road to Serfdom*, (1944))

²⁰⁵ *Id.* 43

²⁰⁶ *Id.* 45

²⁰⁷ Michael Parkin, Melanie Powell, Kent Matthews, *Economics, Fifth Edition*, (Addison-Westley Publishing 2000) Glossary

- **Monopolies:** When a single entity is the sole supplier of a product a competitive market does not exist, and price and quantity are determined solely by that monopolist. Although monopoly control of a market does not necessarily mean that there will be market failure, a market failure is deemed to occur when some potential buyers are excluded from the market because the monopoly owner is unwilling to sell the product at price reflects the point of allocative efficiency which would be present in a competitive market. This does not require the monopolist to sell all its product at that price point, as it can use discriminatory pricing to charge a higher price to customers which value its products more highly, but it does require the monopolist to use that same discriminatory pricing to offer the product at a price, which would be equivalent to the price that would be present in a competitive market. If they do not, too little of the goods will be produced.²⁰⁸
- **Oligopolies:** When there are a limited number of entities offering a product in the market, through collusion or indirect price signaling they can maintain the product price at a level higher than the price which would be present in a competitive market. This is the same form of market failure as occurs with a monopoly in that in that the higher prices mean that a lower quantity of goods are provided to the market.²⁰⁹
- **Missing Markets in Public Goods and Services:** Pure public goods are products like national defense, environmental protection and transportation infrastructure which can be simultaneously by many consumers and from which no one can be exclude. The inability to exclude consumers leads to something known as the "free rider" effect, where by consumers choose to not pay for a product even though they are using it. To the extent that such products are essential for the functioning of a market economy, governments provide these goods and services using public funding.²¹⁰
- **Externalities:** An externality can be described as a cost of benefit which arises from an economic transaction which accrues to a society or members of a society, who are not party to economic transaction. The classic example of an externality is the pollution which is emitted by a factory producing goods for the market. While all members of a society experience the effect of pollution, only the manufacturing entity which sells the product and consumers which buy the product are engaged in the market. As such the costs to society of the pollution are not incorporated into the price of the product.²¹¹

Market Destabilization Failures

- **Too Much Income Inequality:** An inherent characteristic income inequality is that a small percentage of society have more wealth than they can consume, and a large percentage of societies do not have enough wealth to buy the products which they produce. When this happens, markets can and have collapsed, as they did in the Great depression of the 1930's. During that time there was an abundance of goods but too many people could simply not afford to buy them, which meant that the factories

²⁰⁸ *Id.* Chapter 12

²⁰⁹ *Id.* Chapter 13

²¹⁰ *Id.* Chapter 16

²¹¹ *Id.* Chapter 18

closed, and workers were laid off further reducing their ability to participate in the market.²¹²

- **Too Big to Fail:** For markets to operate efficiently, inefficient market supplier must be allowed to fail, as this leaves room for efficient market supplier to replace them. However, when market supplier become so big that their failure would wreak havoc on the entire economy, governments may be forced to step in to save the not the inefficient supplier, but the entire economy. This is what happened in the banking crisis of 2008. When various financial institutions had engaged in speculative financial activities which turned out to be unprofitable, governments were forced to bail out their losses with public money in order to avoid a complete financial collapse.²¹³

Detrimental to Society Failures

- **Supply or over supply of De-Merit Goods:** De-merit goods are goods which while desired by the consumers have been proven to have negative impact on individuals and/or societies as a whole. Typical examples of de-merit goods would be things like tobacco, alcohol, and narcotics. However, as the 2008 recession reveals they can also include financial instruments like sub-prime loans. In the case of sub-prime loans, the borrowers were convinced to take loans which had lower initial rates which were compensated for by higher later rates. For too many borrowers once the higher rates had to be paid, they could no longer afford the payments and as such defaulted on their loans causing the banking crisis. Interestingly this particular over borrowing failure was anticipated by Adam Smith when he penned *Wealth of Nations*.²¹⁴
- **Under supply of Essential Goods and Service:** When a market supplier has monopoly or near monopoly control of a market there may be instances where they do supply essential goods or services to consumers which they require to survive. In some instances, this lack of supply is because the seller sets prices at an unaffordable price, in others it may be because they are attempting to drive potential competitors out of the market. In either case society are worse off when this lack of supply is not corrected.
- **Agency Capture:** Agency capture can be defined as market entities having disproportionate influence over the government agencies which are supervising their market transactions. This disproportionate influence is seldom used to ensure that markets are fair, but rather it is used to tilt the markets in their favor, and against the interests of society.²¹⁵ This failure was also anticipated by Adam Smith as described above.
- **Improper Definition of Property Rights:** When the wrong parties are given property rights, and/or they are given too strong or too weak property rights, the markets which result can be detrimental to societies as it will appropriate rewards from who are disadvantaged by the definition and provide unjust rewards to those that benefit from

²¹² Keynes, *The General Theory of Employment, Interest and Money*

²¹³ Ross Sorkin, *Too Big to Fail*, (Viking Press 2009); Ben Brenanke, *The Courage to Act: A Memoir of a Crisis and Its Aftermath*, (W.W. Norton & Company 2015)

²¹⁴ Maria P. Paganelli, *Adam Smith and the History of Economic Thought: The Case of Banking*. In R. Hanley (Ed.), *Adam Smith: A Princeton Guide*. (Princeton, Princeton University Press.2016) 247-252

²¹⁵ George Stigler, *The Theory of Economic Regulation*, *The Bell Journal of Economics and Management Science* Vol. 2, No. 1 (Rand Corporation, 1971), pp. 3-21

it. When this happens those who from whom the rewards are appropriated will have little incentive to participate in the market and the value which they could have contributed to society will be lost.

Despite that these market failures and others are almost universally accepted by economists the illusion that there is no need for governments to interfere in the market persists, as demonstrated the following article which was reported in the International Herald Tribune. The article involved the Nobel winning economist, Joseph E. Stiglitz responding to a question sent in regarding the justifications for government regulations:

Question: What I find difficult to imagine is why a “superior authority,” such as the government or an international organization, would be able to regulate/decide what is the best trading strategy for any given country/region/community. Why shouldn’t we let the free market forces determine what is the best for the world? What is your opinion on the issue on free worldwide market forces vs. regulation?

Answer: Adam Smith, the father of modern economics, is often cited as arguing for the “invisible hand” and free markets: firms... But unlike his followers, Adam Smith was aware of some of the limitations of free markets, and research since then has further clarified why free markets, by themselves, often do not lead to what is best. ...[T]he reason that the invisible hand often seems invisible is that it is often not there.

Whenever there are “externalities”... markets will not work well. Some of the important instances have been long understood—environmental externalities. Markets, by themselves, will produce too much pollution. Markets, by themselves, will also produce too little basic research...

But recent research has shown that these externalities are pervasive, whenever there is imperfect information or imperfect risk markets—that is always. Government plays an important role in banking and securities regulation, and a host of other areas: some regulation is required to make markets work. Government is needed, almost all would agree, at a minimum to enforce contracts and property rights.

The real debate today is about finding the right balance between the market and government (and the third “sector”—non-governmental non-profit organizations.) Both are needed. They can each complement each other. This balance will differ from time to time and place to place²¹⁶

This answer representing a layman's summary of a complex analysis that Stiglitz and Bruce Greenwald provided in their 1986 paper *Externalities in Economies with Imperfect Information and Incomplete Markets*²¹⁷ which describes a 'general framework for analysing externalities in economies with incomplete markets and imperfect information.'²¹⁸

Another noted authority on law and economics Judge Richard Posner came to a similar conclusion after the banking crisis, which he detailed in his book, *A Failure of Capitalism*.²¹⁹

²¹⁶ Daniel Altman, Managing Globalization; Q&A with Joseph E. Stiglitz, (The International Herald Tribune, Oct. 11, 2006)

²¹⁷ Bruce C. Greenwald, Joseph E. Stiglitz, *Externalities in Economies with Imperfect Information and Incomplete Markets*, Quarterly Journal of Economics Vol. 1 Issue 2 (Oxford University Press, May 1986)

²¹⁸ *Id.* 1

²¹⁹ Richard Posner, *A Failure of Capitalism: The Crisis of '08 and the Descent into Depression*, (Harvard University Press, 2009)

What is remarkable about Posner's book is that, unlike Stiglitz who has always recognised the limitation of the free market, Posner had been more of the neo-classical school and was previously much more sceptical about the need for government interference in the market to solve potential market failures.

It should be noted that while most economist and legal scholars all now agree that government involvement in the markets is necessary, and as such regard the proposition that there is no need for governments to interfere in the market as an illusion, there still exists major differences as to how much and what form that involvement should take. In tradition economics the common understanding is that government involvement should primarily take the form of regulations, taxation, and provision of public goods,²²⁰ with the types and levels of these forms of involvement being contested by those that are more or less sympathetic to free market ideologies.²²¹

However, these forms leave out a major policy tool which governments have that could be used to avoid market failures, which involves granting or redefining property rights in a way which ensure that participants in the market are properly compensated for their property, while prohibiting abuses which are derived from the abuse of absolute property rights. The reason why this is left out of the debate is rather obvious. In Adam's time, the notion of absolute property rights still maintained a pervasive presence as societies were still emerging from a concentrated property phase during which absolute property rights were dominant.²²² Whereas modern economists tend to assume that all properties have or should be regarded as having absolute property rights, because they believe it is the clearest form of property rights and thus conforms to their perfect market ideals.

However, a market does not need absolute property rights to be efficient, only clearly defined property rights, and if this is done properly it will avoid many of the market failures without requiring extensive regulation. This possibility of clearly and properly define property rights as a method of avoiding extensive regulation, conveniently lead to the next set of illusions, these illusions being attributed to the Coase theorem.

5.1.3 The Coase Theorem

A typical presentation of the Coase theorem Economic textbooks is often represented in following manner:

'The Coase theorem states that if property rights exist and transaction costs are low, the individual choice of people in the market lead to the efficient quantity even when external costs exist. All the costs and benefits are taken into account by the transacting parties. So, it does not matter how property rights are assigned.'²²³T

Inherent in this description are two assumptions, two direct arguments and two implied arguments. The two assumptions are that property rights exist, and transaction costs are low. The two direct arguments are that individual choice will lead to efficient quantities even when

²²⁰ Parkin, *Economics* 341

²²¹ Include in the Chapter 14 is detailed discussion of how the levels of regulations were alter during the Universal phase of property rights.

²²² See Chapter 14 Concentrated Phase for a more detailed discussion of this evolution.

²²³ Michael Parkin, Melanie Powell, Kent Matthews, *Economics, Fifth Edition*, (Addison-Westley Publishing 2000) 386-387

external cost exist, and it does not matter how property rights are assigned. The two implied arguments are contained in the second direct argument, for if it does not matter how property rights are assigned; then the quantum of activities should not change when property rights change and given that it does not matter how property rights are assigned it would be redundant for the government to interfere with the market by changing property rights.

Similar understanding of what the theorem states can also be found among the works of numerous economists and legal scholars, who have described the theorem in the following manners:

'if one assumes rationality, no transaction costs, and no legal impediments to bargaining, all misallocations of resources would be fully cured in the market by bargains. (Calabresi, 1968, p. 68, emphasis in original)

in a world of perfect competition, perfect information, and zero transaction costs, the allocation of resources in the economy will be efficient and will be unaffected by legal rules regarding the initial impact of costs resulting from externalities. (Regan, 1972, p. 427)

If transaction costs are zero the structure of the law does not matter because efficiency will result in any case (Polinsky, 1974, p. 1665)

if there were (a) no wealth effects on demand, (b) no transaction costs and (c) rights to pollute or control pollution, the allocative solution would be invariant and optimal, regardless of the initial assignment of rights. (Frech, 1979, p. 254)

when parties can bargain together and settle their disagreements by cooperation, their behavior will be efficient regardless of the underlying rule of law. (Cooter and Ulen, 1988, p. 105)²²⁴

Surprisingly much of what is included in these definitions are illusions added on to Coase's original work and refuted by Coase in that work.²²⁵ Given this general level of misinterpretation of his original work, it is clearly necessary to first summarize this work before, examining the illusions.

Coase's *Problem of Social Cost* is divided into nine chapters, with the first chapter describing the issues he will be addressing. In this chapter Coase explains that he will be addressing the issue of 'action of business firms which have harmful effects on others' and contesting the common economic conclusions that the most appropriate methods to deal with externalities like pollution is to; make the factory liable for damages, tax the factory or make the factory move.²²⁶

The second chapter expands the definition of the problem from a one-dimensional issue to a two-dimensional issue. The first dimension being the harm created by A, and the second

²²⁴ Steven G. Medema, Richard O. Zerbe, *THE COASE THEOREM* Encyclopaedia of Law and Economics (Bouckaert & De Geest 1999) Citing: Calabresi, Guido (1968), 'Transaction Costs, Resource Allocation and Liability Rules: A Comment', 11 *Journal of Law and Economics*, 67-73; Regan, Donald H. (1972), 'The Problem of Social Cost Revisited', 15 *Journal of Law and Economics*, 427-437; Polinsky, A. Mitchell (1974), 'Economic Analysis as a Potentially Defective Product: A Buyer's Guide to Posner's Economic Analysis of Law', 87 *Harvard Law Review*, 1655-1681.; Frech, H. Edward III (1979), 'The Extended Coase Theorem and Long Run Equilibrium: The Non-Equivalence of Liability Rules and Property Rights', 27 *Economic Inquiry*, 254-268. : Cooter, Robert D. and Ulen, Thomas S. (1988), *Law and Economics*, Glenview, IL, Scott, Foresman and Company. : Schwab, Stewart J. (1988), 'A Coasean Experiment on Contract Presumptions', 17 *Journal of Legal Studies*, 237-268.

²²⁵ Coase, Ronald H. (1960), '*The Problem of Social Cost*', 3 *Journal of Law and Economics*, (The University of Chicago Press, 1960) 1-44

²²⁶ *Id.* I. The Problem To Be Examined.

dimension being the harm to A if it was not allowed to engage in the harmful activity. In this chapter he suggests that the real "problem is to avoid the more serious harm."²²⁷

In the third chapter Coase examines a pricing system which would result from holding A liable for the damages inflicted on B in the course of his business. The example he uses is that of a rancher and a farmer where the rancher's cattle wander on to the farmer's field and destroy his crops. In this example it is assumed that there is a higher level of damage created with each additional cow which is added to the rancher's herd. The conclusion of this chapter is that the rancher will expand his operations until such a point as the marginal damages caused by the expansion exceed the marginal profits gained from it, so if adding one more cow, causes more damages than the profit which can be made from that cow, that rancher will not add that extra cow. In an extreme example this may mean that the farmer will abandon farming if adding an extra cow is more profitable than farming would be, as the rancher would simply pay the farmer an amount equivalent to his potential farming profits to cease farming. Using this analysis Coase points out that market efficiency is maximised using this process because productivity of the farm land is put to its most efficient use and neither the rancher or the farmer is prevented from engaging in an activity that would have a higher marginal value than their counterpart. This is referred to as his efficiency hypothesis. One notable aspect of this analysis is the assumptions of perfect markets with low transaction cost, is an assumption that Coase readily accepts is unrealistic.²²⁸

In chapter four, Coase turns the analysis provided in chapter three around by assuming that A has no liabilities, and that the only way for B to avoid this harm is by paying A not to engage in the harmful activity. Under this analysis he argues that the farmer would be willing to pay the rancher to limit the size of his herd, an amount equivalent to the marginal profit that he makes from adding an extra cow so long as the damages which he can avoid are greater than that payment. The conclusion Coase draws from this chapter is that "the ultimate result (which maximizes the value of production) is independent of the legal position if the pricing system is assumed to work without costs."²²⁹

In chapter five Coase moves from the theoretical to real world analysis by examining a series of four cases involving external harm. In these cases, all the plaintiffs were seeking injunctive actions which would eliminate the external harm. In the first case an injunction was granted but in the following three injunctive relief was not provided, although in one of those cases the plaintiff was encouraged to seek damages. The primary point that Coase argues through presenting these cases is that it does not matter who is liable, as a property function pricing system would allow the litigant who was unsuccessful to purchase the right to harm or the right not to be harmed from the successful litigant.

'But it has to be remembered that the immediate question faced by the courts is *not* what shall be done by whom *but* who has the legal right to do what. It is always possible to modify by transaction on the market the initial legal delimitation of rights. And, of course, if such market transactions are costless, such rearrangement of rights will always take place if it would lead to an increase in the value of production.'²³⁰

²²⁷ *Id.* II. The Reciprocal Nature Of the Problem

²²⁸ *Id.* III. The Pricing System With Liabilities For Damages

²²⁹ *Id.* IV. The Pricing System With No Liabilities For Damage.

²³⁰ *Id.* V. The Problem Illustrated Anew

In chapter six Coase abandons the notion of zero of low-cost transactions to see what the effect of removing this assumption would have on his argument. His initial conclusion is that:

'Once the cost of carrying out market transactions are taken into account it is clear that such rearrangements of rights will only be undertaken when the increase in the value of production consequent upon the rearrangement is greater than the cost which are involved in bringing it about. ... In these conditions the initial delimitation of legal rights does have an effect on the efficiency with which the economy operates'²³¹

Contrary to the modern interpretation of his theorem, it is also in this chapter that Coase argues in favour of government regulations.

'In the standard case of a smoke nuisance, which may affect a vast number of people engaged in a wide variety of activities, the administrative costs might well be so high as to make any attempt to deal with the problem within the confines of a single firm impossible. An alternative solution is direct Government regulation. Instead of instituting a legal system of rights which can be modified by transactions on the market, the government may impose regulations which state what people must or must not do and which have to be obeyed. Thus, the government (by statute or perhaps more likely through an administrative agency) may, to deal with the problem of smoke nuisance, decree that certain methods of production should or should not be used (e.g. that smoke preventing devices should be installed or that coal or oil should not be burned) or may confine certain types of business to certain districts (zoning regulations).'²³²

Although he subsequently provides the following caveat:

'It is my belief that economists, and policy-makers generally, have tended to over-estimate the advantages which come from governmental regulation. But this belief, even if justified, does not do more than suggest that government regulation should be curtailed.'²³³

Chapter seven can be viewed as Coase's attempt to convince judges to use economic theory to decide the initial delimitation of legal rights. The first point he makes in this chapter is that:

'if market transactions were costless, all that matters (questions of equity apart) is that the rights of the various parties should be well-defined and the results of legal actions easy to forecast. But as we have seen, the situation is quite different when market transactions are so costly as to make it difficult to change the arrangement of rights established by the law.'²³⁴

²³¹ *Id.* VI The Cost of Market Transactions Taken Into Account, 15

²³² *Id.* VI The Cost of Market Transactions Taken Into Account, 17

²³³ *Id.* VI The Cost of Market Transactions Taken Into Account, 18

²³⁴ *Id.* VII. The Legal Delimitation of Rights And The Economic Problem, 19

This point is crucial because in it, he is suggesting that "equity" should determine the initial delimitation of rights, advocating for clearly defined rights to enhance market efficiency and suggesting that transaction cost will make it difficult to rearrange an initial rights delimitation.

He then goes on to suggest that the courts are aware of the economic consequences inherent in their rights delimitation and for the most part adhere to the notion that only unreasonable externalities should evoke a change in rights.

'The doctrine that the harmful effect must be substantial before the court will act is, no doubt, in part a reflection of the fact that there will almost always be some gain to offset the harm. And in the reports of individual cases, it is clear that the judges have had in mind what would be lost as well as what would be gained in deciding whether to grant an injunction or award damages.²³⁵

In concluding this chapter, he summarizes his advice, which in many ways represents a summary of the entire paper:

'The problem which we face in dealing with actions which have harmful effects is not simply one of restraining those responsible for them. What has to be decided is whether the gain from preventing the harm is greater than the loss which would be suffered elsewhere as a result of stopping the action which produces the harm. In a world in which there are costs of rearranging the rights established by the legal system, the courts, in cases relating to nuisance, are, in effect, making a decision on the economic problem and determining how resources are to be employed. It was argued that the courts are conscious of this and that they often make, although not always in a very explicit fashion, a comparison between what would be gained and what lost by preventing actions which have harmful effects. But the delimitation of rights is also the result of statutory enactments. Here we also find evidence of an appreciation of the reciprocal nature of the problem. While statutory enactments add to the list of nuisances, action is also taken to legalize what would otherwise be nuisances under the common law. The kind of situation which economists are prone to consider as requiring corrective Government action is, in fact, often the result of Government action. Such action is not necessarily unwise. But there is a real danger that extensive Government intervention in the economic system may lead to the protection of those responsible for harmful effects being carried too far.²³⁶

A layman's summary of this summary would be that; because external harm can sometimes be less harmful to the economic efficiency than preventing that harm, such harm should be allowed when transaction costs are high. That government interference by either the delimitation of rights or enacting regulations to prevent such harms may be wise, but it can go too far.

The eighth chapter effectively examines the historical economic recommendations for the treatment of externalities, by analysing Pigou's *Economics of Welfare*.²³⁷ In this chapter he

²³⁵ *Id.* VII. The Legal Delimitation of Rights And The Economic Problem, 20

²³⁶ *Id.* VII. The Legal Delimitation of Rights And The Economic Problem 27-28

²³⁷ *Id.* VIII. Pigou's Treatment in "Economics of Welfare", Citing A. C. Pigou, *The Economics of Welfare* 183 (4th ed. 1932)

demonstrates several contradictions in Pigou's description of the divergence between private and social products which make Pigou's treatment of the problem is "extremely elusive".²³⁸

In his ninth chapter of *Coase* criticise the Pigovian notion that externalities are best remedied by either making entities liable for the harm that they create or taxing the external harm, as neither may result in optimal efficiencies.²³⁹

The final chapter *Coase* first admits that the 'problems of welfare economics must ultimately dissolve into a study of ethics and morals' and repudiating the notion that a "laissez affair" state is the solution.

'Actually very little analysis is required to show that an ideal world is better than a state of laissez faire, unless the definitions of a state of laissez faire and an ideal world happen to be the same. But the whole discussion is largely irrelevant for questions of economic policy since whatever we may have in mind as our ideal world, it is clear that we have not yet discovered how to get to it from where we are. A better approach would seem to be to start our analysis with a situation approximating that which actually exists, to examine the effects of a proposed policy change and to attempt to decide whether the new situation would be, in total, better or worse than the original one. In this way, conclusions for policy would have some relevance to the actual situation.'²⁴⁰

His ultimate conclusion being that:

'in choosing between social arrangements within the context of which individual decisions are made, we have to bear in mind that a change in the existing system which will lead to an improvement in some decisions may well lead to a worsening of others. Furthermore, we have to take into account the costs involved in operating the various social arrangements (whether it be the working of a market or of a government department), as well as the costs involved in moving to a new system. In devising and choosing between social arrangements we should have regard for the total effect.'²⁴¹

Given this description of *Coase's* paper it would appear that a definition of the *Coase* theorem could really be something like:

The *Coase* theorem states that rights should be equitable but not absolute as they should allow for reasonable externalities. When these rights are clearly defined, and transaction cost are low, individual choices will allow for a reorganization of these rights to maximise efficiency while maintaining equity. Only when transaction costs are high, should the government regulate externalities and it should seldom tax externalities as this is never efficient.

While such a definition would clearly allow for an examination of the illusions inherent in the definitions provided above, it only makes sense to address the potential illusions in *Coase's*

²³⁸ *Id.* VIII. Pigou's Treatment in "Economics of Welfare", 39

²³⁹ *Id.* IX. The Pigovian Tradition

²⁴⁰ *Id.* X. A Change of Approach, 43

²⁴¹ *Id.* X. A Change of Approach, 44

original work at the same time as addressing the definitional illusions, as these potential illusions evolved into those definitional illusions.

The first potential illusions can be found in chapter two; where there appears to be a suggestion of moral ambivalence between the parties, a suggestion that all harms can and should be quantified only according to economic efficiency, and a suggestion that most externalities are unavoidable. This moral ambivalence is evident in the proposal that the harm caused by preventing harm is somehow comparable to the harm itself and may even create a greater harm. The suggestion that harms could and should be quantified using only economic factors obviously reinforces the moral ambivalence. And the proposition that externalities are unavoidable is inherent, indicates a lack of analysis of the possibility that the harm could be otherwise avoided.

These possible illusions naturally feed into the direct argument/illusion that that it does not matter how rights are assigned and the indirect argument/illusion that government interference with property rights is pointless. Clearly if there is no moral difference between harm, there is no need for a legal system whose primary purpose is to determine who is the guilty party in a dispute. Nor is there any point in attempting to change the status quo with respect to a delimitation of rights. While illusion may represent an amoral perfect market economic, it is clearly not an illusion which Coase accepts, as on several occasions he implies that equity should be the deciding factor in delimiting rights. Coase's references to equity indicating that he has a clear understanding of the very severe consequences in the real world of an inequitable distribution of rights, some of which will be described below.

The fourth major potential illusion can be found in the third chapter. This potential illusion revolves around the assumptions made with respect to pricing of damages. The assumption used is one which assumes that negotiated or ordered damages will be equivalent to the actual damages suffered. This may or may not be the case outside the perfect market constructed in the example. An illusion which Coase alludes to as follows:

'What payments would in fact be made would depend on the shrewdness of the framer and the cattle raiser as bargainers.'²⁴²

The illusion is possible because Coase does not elaborate on the potential impact of a disconnect between negotiated and actual damages. Using Coase's example; if the farmer can negotiate more damages than they suffer, the size of the rancher's herd will be smaller than would be efficient. This possibility being all too likely if the farm is considered as a unique factor of production rather than a competitive commodity. Unique factors of production are not sold at the lowest price point of an alternative use, but at the price point that reflects the additional value their use will provide to an economic activity. In Coase's example this would be the profit that the rancher can earn from each cow in his herd and not the damage that they inflict. Alternatively, if the rancher is able to negotiate damages that are lower than the actual damages his herd will be larger efficiency would dictate. In either case it indicates that Coase's primary argument; that a pricing system will ensure an optimal allocation of resources is put in jeopardy outside a perfect market. That said; what Coase is arguing in this chapter would appear to be entirely reasonable. Just as a single rational economic actor who owns both properties would seek to maximise the aggregate value of both properties, it makes sense that two rational

²⁴² *Id.* III. The Pricing System With Liabilities For Damages, 5

economic actors would seek to maximise the value of their respective properties through negotiation.

A fifth potential illusion in Coase's original work is the notion that there will be no change in the use of resources when liability rules are changed. This illusion is included in chapter four where Coase explains how an elimination of the liability rules will result in the same productive outcomes, albeit with the relative share of the aggregate profits from that outcome being redistributed. This is a potential illusion because it may be that there exists more than one combination of resource allocations which result in an optimal production output. In such a case the party which gets to decide the level of harm or the level of harm avoided will obviously choose the resource allocation combination that provides them with the greatest profit. Moving from a perfect market, there is also the question of the correct knowledge of the value of abandoned output.

A sixth potential illusion in Coase's work can be found in his criticism of excessive government action which can be found throughout the work. What is ignored in the definitional illusions is that although Coase criticises excessive government intervention, at no time does he advocate no governmental intervention. Indeed, it appears to be quite conveniently forgotten that in chapter seven, where he is most critical of government regulations and the imposition of taxes on externalities, he admits that when transaction costs are high government regulations may be necessary to achieve optimal levels of production.

It should be noted that all six of these potential illusions are at least briefly considered by Medema and Zerbe, in the article on The Coase Theorem included in the Encyclopaedia of Law and Economics,²⁴³ even though their treatment of them is not entirely the same as provided here. While part of that difference can be ascribed to the fact they distil the essence of the theorem down to an "efficiency hypothesis"²⁴⁴ and an "invariable hypothesis"²⁴⁵, given their authority on the subject a more thorough examination of these differences appears appropriate.

With the first illusion about the moral ambivalence between the initial allocation of rights, they state that 'The Theorem is a positive statement with no normative implications; it is an "is" statement, not an "ought" statement.'²⁴⁶ While this statement is possible if one ignores Coase's comments on equity and concentrates solely on the efficiency and invariance hypotheses, what is curious is that they do actually make a moral argument, before focusing on an amoral argument with respect to the initial allocation of rights.

The moral argument that they make is that because losses are felt more acutely than gains, '(due to income, substitution effects and loss aversion)' rights ought to be left where they lie.²⁴⁷ This analysis is quite fascinating because it totally ignores one of the fundamental assumptions of economics, which is the marginal utility theory. This theory states that economic actors tend to value products less as they acquire more of them. So, while the first product they acquire has the highest utility value, the last one they acquire has the lowest. Using this utility theory would obviously totally change the dynamics of loss and gain comparison made by Medema and Zerbe, in circumstances where the loser had a lot of rights and the winner had none.

²⁴³ *Id.* Medema and Zerbe, The Coase Theorem

²⁴⁴ *Id.* 834 "regardless of how rights are initially assigned, the resulting allocation of resources will be efficient."

²⁴⁵ *Id.* 384 "the final allocation of resources will be invariant under alternative assignments of rights"

²⁴⁶ *Id.* 876

²⁴⁷ *Id.* 850

Moving on from their moral argument they then take a rather amoral economic position by citing Posner's statement that '[s]ince transactions are never costless in the real world, efficiency is promoted by assigning the legal right to the party who would buy it'²⁴⁸. Although this statement can be considered an amoral economic assessment it has huge moral implication, for what it implies is that rights should belong to whoever can *afford* to pay the most. Such a moral implication is of course directly contradictory to their statement about the lack of normative implications in the theorem, and again ignores much of Coase's original work.

As to the fourth illusion regarding the assumptions made with respect to pricing of damages, Medema and Zerbe merely assume it away, suggesting that under a Quasi-Competitive Framework, there is 'no strategic behaviour'.²⁴⁹ However, if this assumption is deemed necessary there must have been a recognition that "strategic behaviour" could have an impact.

The fifth illusion on the potential for variance depending on how rights are assigned is recognised in their analysis of the evidence supporting the invariance hypothesis. In this analysis they bring up an empirical study done by Kenneth Vogel which examined actual changes in Californian Animal Trespass laws.²⁵⁰ What that study revealed was that when ranchers became liable for the damage done by their cattle, farm production increased, and the herds were moved to up into the foothills.²⁵¹ An outcome which clearly contradicted the invariance hypothesis. Surprising Medema and Zerbe rather than accepting that there was a possibility of the theorem being at least partly illusionary, instead focused on an unconvincing explanation of why the outcome was irrelevant.

As to the final illusion which denies the potential of a positive impact resulting from governmental involvement, Medema and Zerbe agree with Coase:

'Three prescriptions for legal-economic policy are said to flow from the Coase Theorem.

1. Rights-cum-market solutions are said to be preferable to Pigouvian remedies for the resolution of externality problems.
2. Property and contract are efficient; any interference with the outcomes so generated will make matters worse rather than better. It is this implication that makes the Coase Theorem, in the minds of some, 'the cornerstone of a laissez-faire legal and economic policy regarding contract and property law' (Hoffman and Spitzer, 1986, p. 151).
3. When transaction costs are positive, rights should be assigned to those who would possess them in the end-state if transaction costs were zero, as seen in the prescriptions of wealth maximization, or 'mimic the market'.

But the Coase Theorem says none of these things.²⁵²

Having identified the major illusions associated with the Coase theorem it appears appropriate examine those illusions outside the perfect markets to ascertain their actual impacts on real world situation and particular on intellectual property.

²⁴⁸ *Id.* 874: citing; Richard Posner, *Economic Analysis of Law*, 4th edn, (Boston, Little Brown and Co.,1992) 52

²⁴⁹ *Id.* 840

²⁵⁰ *Id.* 864: citing; Kenneth R. Vogel, 'The Coase Theorem and California Animal Trespass Law', 16 *Journal of Legal Studies*, (The University of Chicago Press 1987) 149-187.

²⁵¹ *Id.* 865.

²⁵² *Id.* 876

The central challenge to the moral ambivalence is derived from the fact that property rights can be abused, and the market will not correct that abuse. Abuse in this situation being defined as the use of property rights in a way that intentionally causes harm for others in society. This harm can be either direct or indirect and will often far out weight any gain that the property owner gains from perpetrating it.

Probably the most infamous example of how property rights can be abused to indirectly harm others in a society must be the Irish Potato Famine of 1740-41. In the superficial version of the story of this famine; it is explained that there was a potato plight which destroyed the potato crop and it was assumed that the destruction of the potato crops caused the deaths to nearly one million Irish and forced another million Irish emigrating in order to survive. However, this is only half the story. What this version of that story does not provide is an explanation of why; when the same plight destroyed potato crops across the rest of Europe, the rest of Europe did not experience a mass famine. For this it is necessary to examine the privileged property rights which were in place in Ireland at the time of the famine.

What must be remembered is that during the famine 80% of the cultivated land in Ireland was owned by absentee landlords, and those absentee landowners expected a certain level of annual revenues from their property and they cared little how that revenue was achieved. For the most part they managed their properties by hiring farm managers, which would hire farm labourers, who would be given permission to maintain small cottage and garden allotments on the land in return for their labour. These allotments were so small the only crop which could sustain their families were potatoes, which when the blight came meant they had nothing else to eat. This fully conforms to Coase's theorem, as those absentee landlords had a clear and absolute right to their property and the crops produced on their property, and this right was not in any way constrained by a duty to protect the farm labourers who work their land to produce those crops. It was a manifestation of those rights, which allowed the absentee landowners to turn their backs on the plight of the farm workers when the potato plight struck.

Whereas in the rest of Europe when the potato plight struck, the land owners recognised their duties to come to the aid of their farm workers, in Ireland this did not happen. To be clear in Ireland there was more than enough food produced to feed the population during the plight, the problem was that the vast majority of those crops were not shared with the farm labourers who cultivated them. Instead they were shipped to foreign market at the behest of absentee landlords. That the farm labourers starved after the potato crops on their tiny allotments failed, was of no consideration. Whether the absentee aristocracy were acting within their allocated property rights or that the agricultural efficiency was sustained can be debated. What cannot be debated is that it was morally repulsive to starve one million Irish, because the absentee landlords insisted on maintaining their incomes from their properties at the same level that they were prior to the blight. The fact that the illusion attached to the Coase theorem promotes and encourages such a reprehensible state of affairs; is an indictment of their immorality.

Further, the indifference toward the allocation of liabilities, and an unwillingness to condemn the intentional perpetration of direct harm is perhaps even more immoral indictment of this illusion. The mere idea that it does not matter who causes the damages; is both offensive and absurd. It is offensive because it basically bifurcates society into two separate classes of citizens, providing a property-owning class the freedom to harm all others with impunity. This makes a mockery of the notion of equality which societies continually struggle to achieve. It is absurd in that it would eliminate the legitimacy of the legal system by destroying the very notion of justice.

To emphasize the absurdity of this argument, just imagine how ridiculous it would be for an economist to argue that; because damages were the same regardless of who commits a crime, it did not matter whether the criminal or the victim was held accountable.²⁵³

Disregarding the moral imperative such an argument, there is also the question of the effects that a lack of accountability will have on the likelihood of an action occurring. To the extent that potential criminal and civil liabilities act as a deterrent to the potential perpetrators, being released from those liability will obviously eliminate that deterrence. In most cases this lack of deterrence will logically result in an increase in the level of the activity. This is true whether the act is a criminal offense or strictly a liability issue. Just as with indemnifying perpetrators of a criminal act will lead to more criminal acts, neglecting to hold a factory responsible for the damages caused by its pollution, will cause more pollution. That this increase in harm should not matter, must challenge the morality of this illusion.

Astonishingly, these moral arguments appear to be beyond the wit of economists that support the illusion. In classrooms across the world neo-classical supporters portray their illusions as the ideal summation of the idea of omnipotent market capacity based on an unrestrained pursuit of profit maximization. For them the proposition that economic efficiency will be served regardless of how rights are distributed, means the distribution of rights is irrelevant. Who is injured, how they are injured, and why they are injured means nothing; so long as economic efficiency is achieved. This notion is so amoral, that it is immoral. For if it is truly just economic efficiency that is to be considered and workers being just another means of production, then human and workers' rights are meaningless.

In the field of intellectual property this theorem and its resulting myth of market omnipotence takes the form of calls for the government to simply impose and protect strong intellectual property rights as a means of ensuring that the market operates efficiently. However, the same moral argument can be used for this proposition. If the illusions attached to the Coase theorem are to be believed, it does not matter if strong intellectual property rights prevent lifesaving medications from being provided in an affordable way to potentially millions of dying patients. All that matters is if the proper rights and profits of the pharmaceutical companies are protected, regardless of the indirect harm it creates.

The same lack of morality can be seen with the willingness to overlook the direct harm perpetrated by intellectual property right owners of correlated intellectual properties. To the extent that the theorem suggests owners can use their intellectual property to intentionally inflict harm on others, without suffering any consequences, is not only unjust but it is bound to encourage others to do the same. Such is the case with the rise of the so called "patent trolls". After the first troll was not condemned for extorting excessive royalties for the use of their intellectual property, many more adopted the same practice.

Of course, some may try to rationalize the morality of such behaviour by pointing out that the excessive royalties charged by trolls, are offset by lower royalties from those that do not take full advantage of their property rights. Or alternatively that such behaviour is a small price to

²⁵³ As absurd as this argument is, it should be noted that there are those that do blame the victims of a crime, for the crime. The most common circumstances where this occurs is in situations involving either violent crimes against women or fraud in the financial markets. In the former category the suggestion is that women somehow were asking for or deserved the abuse. In the latter case the notion is that the victims should have been aware of the risks. Of course; just as absolving aggressors of their attacks against women, encourages more attacks, so too does absolving the banks and rating agencies of their duplicity in the financial markets encourages more financial duplicity.

pay for the overall benefits from intellectual property regime. These rationalizations are equivalent to suggesting that the pollution created by Stigler's factories can be ignored because other factories do not pollute, and the overall benefits of the factory outweigh the damage caused by pollution.

The first of these arguments is morally invalid because it is like saying that a restaurant owner it should not complain about extortionate pricing in the supply of alcohol supplied by the mafia if it is able to find a cheap source of fresh produce. The second argument is not a moral argument but a straw argument. It is creating a false choice between strong intellectual property rights and no intellectual property rights. Just as eliminating the factories is not an appropriate solution to pollution, eliminating intellectual property rights is not an appropriate solution to intellectual property abuse. All that a moral imperative would require is that factory be held accountable for the harm that they do by polluting, and intellectual property owners be held accountable abusing their intellectual property rights. Failing to do so is what creates and encourages the morally objectionable behaviour.

As far as the second illusion is concerned it is an undeniable that there are real world examples of how optimal outcomes are frustrated by "strategic behaviour" in an otherwise operational pricing system. No better example can be provided than by so called "patent trolls" active in intellectual property. What can happen in this situation is that intellectual property rights allow patent trolls to extort disproportionately high licensing fees for their contribution of the correlated intellectual, thereby reducing the integrated producers profit margin and reducing the funds it has available to invest in research and development.

The most illustrative examples of this type of behaviour altering effect must be the 2003 case of NTP v Research in Motion.²⁵⁴ In the case Research in Motion (RIM) was found to have infringed five of NTP's patents. To remedy this infringement, the jury awarded NTP damages in the amount of \$53,704,322.69 for past infringements and the court entered a permanent injunction against RIM, enjoining it from further manufacture, use, importation, and/or sale of all accused BlackBerry systems, software, and handhelds. An injunction that was stayed pending final appeal, which was denied.²⁵⁵ As some of these patents were considered to be essential to the production of RIM's Blackberry phone, RIM was forced to reach a settlement with NTP or close its doors. This settlement involved a \$612.5 million payment to NTP which was described as a "full and final settlement of all claims against RIM, as well as for a perpetual, fully-paid up license going forward."²⁵⁶ To put this \$615.5 million in context, RIM's 2005 adjusted net income, before the litigation expenses was \$414.5 million, and it had to provide for \$352.6 million of legal expense because of this settlement.²⁵⁷ This meant that fully 85% of RIM's 2005 profits went to NTP, which may have been entirely appropriate if NTP's patents represented 85% of the patents used by RIM, but they did not. In fact, NTP's five patents did not cover even one tenth of one percent of the intellectual property used in the Blackberry. For not only were there RIM's own proprietary intellectual properties used in the Blackberry, it also incorporated the seven thousand or so intellectual properties required to meet the 3G standard.²⁵⁸ As such what can be argued is that in this instance the court forced the indirect appropriation of 84% of RIM's profits.

²⁵⁴ NTP, Inc. v. Research in Motion, Ltd., 270 F. Supp. 2d 751 - Dist. Court, ED Virginia 2003

²⁵⁵ NTP, Inc. v. Research in Motion, Ltd., 418 F. 3d 1282 - Court of Appeals, Federal Circuit 2005

²⁵⁶ Research in Motion, Press Release, Mar 3, 2006

²⁵⁷ Research In Motion, Annual Report, 2005

²⁵⁸ Goodman Myers "3G CELLULAR STANDARDS AND PATENTS" (2005)

There can be no denying that this appropriation meant RIM had less funds to invest in research and development, and as such the high protection altered its behaviour. What is also beyond doubt is that NTP did not use the money, appropriated from RIM, to finance further research and development.²⁵⁹ What this example clearly demonstrates is that property rights and in particular relatively absolute property rights do have significant effects on industrial efficiency, contrary to the illusions attached to the efficiency hypothesis.

Contrary to invariance hypothesis illusion, those same property rights can also have an impact on the use of resources. This illusion can be easily demonstrated by posing and addressing two questions. The first question revolves around the whether intellectual property rights are necessary and the second what level of protection those rights should provide if they are deemed necessary?

With respect to the first question, if it is true economic efficiencies and individual economic activity are not altered by the initial allocation of rights, why do societies bother to create and enforce intellectual property rights? After all, if the fees and expenses paid to negotiate licenses and prosecute cases are not necessary, doesn't it make sense to eliminate those artificial legal rights and save the transaction costs? The only response that illusion advocates can provide to this question is that the economic benefits of providing the right, must exceed the additional transaction cost that it entails. That without intellectual property rights protection, there would be significantly less innovation, and that would be more harmful to society than the increase in transaction costs. But this argument directly contradicts the theory. Either economic efficiencies and economic activities don't change as the theory suggests, or the theory does not work for intellectual property.

Of course, the difficulty with testing this question is that there does not exist a developed society where intellectual property rights do not exist, so it would be sheer speculation to suggest that such a society would be more economically efficient. That said the very fact that all developed societies have adopted intellectual property laws, would tend to suggest that they have determined that there is a benefit to society to providing such protection. While this observation does not represent a testable theory it at the very least provides a strong indication that intellectual property rights in fact matter, and the illusion that they do not, is invalid.

Given the evidence that the protection of property rights under enacted intellectual property laws provide an overall benefit to society, the question that remains is how does the level of protection provided under those laws alter the overall economic efficiency of society or the economic activities of those engaged in the intellectual property dependant industries? According to the theory it should make no difference whatsoever as long as those rights are clearly defined and enforced. It is this assumption that leads to the proposition that all the societies need to do; is to provide strong and clear protections to intellectual property for the market to find the most economically efficient level of production. A level that will result in the same level of individual activities regardless of what level of protection is provided, the only difference being the distribution of the rewards between the intellectual property providers and the intellectual property practitioners.

²⁵⁹ To the extent that the troubles experienced by RIM in 2013 relate to their lack of product development it could easily be argued that this unjust decision was the watershed moment for the company.

This proposition appears absurd even on the surface. There is no way in which the level of protection provided will have no effect on the individual activities of intellectual property providers and it is just as unlikely that it would no effect on overall economic activity.

As far as the individual economic activity is concerned, the theory is particularly untrue for independent intellectual property providers, like university technical programs and other purely technology organizations that provide technology to external technology practitioners. In many cases decreased protection for these organizations, would mean lower licensing revenues, which would mean a decrease in spending on research and development. But higher protection can also have the same effect. Take for example the pharmaceutical industry where higher protection can be used to prevent independent labs from researching fields where existing intellectual property is protected. Exclusion from these fields mean that only existing intellectual property owners can do the research, which proves higher protection also alters individual economic activity.

This alteration of individual economic activity is also evident in integrated intellectual property providers who; both develop new innovations and provide products to the market. For these entities decreased intellectual property protection will mean that they are not able to profit as much from the sale of products that they provide, so this will almost inevitably result in decreased research and development expenditure. Nowhere is this more evident than in the previously mentioned pharmaceutical field where costly medical trials represent a huge financial commitment that would have to be delayed or could not be made if intellectual property protections levels were significantly lowered.

Higher protection can also alter economic activities of standalone intellectual property providers. One obvious alteration would be when entities delay; either the development or roll out of advances on their technology. They could do this if higher protections allow them to exclude others from participating in their relevant fields, which would mean that they do not face the threat of their competition coming to market with an advance on their technology before they do. They would do this if they believe that they can make more money by: milking the existing technology and extending their protection period; than they could to by pursuing and introducing advance as quickly as possible.

The final illusion which denies the potential of a positive impact resulting from governmental involvement is also clearly invalid. To the extent that intellectual property rights are a product of government involvement, it should go without saying that government involvement is necessary. The only question therefore should be can government limitations of existing intellectual property rights provide a benefit to operational efficiency. To answer this question in a positive manner would require showing that such limitations would reduce transaction cost which in the real world would mean a reduction in litigation costs. Whether this occurs will be dependent on the nature of that limitations. If governments choose to reapply something like the nine no-noes in intellectual property law it will not,²⁶⁰ however if they merely recognise the correlated rights of intellectual property owners, it could reduce transaction cost by more clearly defining the limits of intellectual property rights.

Of course, one excuse for why the illusions attached to Course theorem can be so easily invalidated is that it was developed at a time that economics was primarily focused on static

²⁶⁰ For a detailed description of nine no-noes and how they were eliminated see the Supervised property stage in the Chapter 14.

industries operating in a relatively stable economic structure. That it was never intended to be applied to dynamic competition, where intellectual property plays a more significant role in rapidly changing industries. However even if the theorem was updated to include dynamic competition, it is unlikely that the conclusions invalidating the illusions would be nullified. This statement can be made with some certainty because illusions attached to neo-classical theories that focus on market dynamics can be just as easily rebutted.

5.1.4 Schumpeter's Creative Destruction

The main focus of Schumpeter's 1942 work titled; "Capitalism, Socialism, and Democracy" was to refute Karl Marx's assertions that capitalism would eventually destroy itself.²⁶¹ In this work Schumpeter argued that although progress in industry and commerce contained destructive forces which destroyed old industries, this destructive process was not a sign of the ultimate demise of capitalism, but rather a sign of its rebirth.

'The opening up of new markets, foreign or domestic, and the organizational development from the craft shop to such concerns as U.S. Steel illustrate the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consist in and what every capitalist concern has got to live in.'²⁶²

In addition to providing a compelling argument against Marxist theories, Schumpeter also greatly advanced the understanding of the economics. His analysis suggested that classic economic was too focused on static markets where the products did not change, and competitor competed almost exclusively on price. His insight was that; far from being static most markets were highly dynamic, and competition often took the form of new way of manufacturing products, new markets and even new products. It was these constant changes in methods, markets and products that he was attempting to describe with his famous quote referring to "perennial gale of creative destruction".²⁶³ A quote which Schumpeter intended as shorthand for the free market's painful way of delivering progress.

It was his belief society could not reap the rewards of capitalism without accepting the destruction of older industries, even though this destruction would inevitably harm some individuals. Indeed, he went even further by suggesting that attempts to soften the harsher aspects of creative destruction were futile and counterproductive because while they might provide some short-term benefits, it would ultimately lead to stagnation and decline. A decline imposed on the society by other societies which did not adopt these measures and would therefore be able the surpass the protected society in both industrial advances and increased economic productivity. Under this argument, progress did not only create winners and loser, it appeared to require losers as a sign of progress. Indeed, Schumpeter's himself, in his description of stages of industrial development, took pains to point out how inefficient systems and workers had to be sacrificed in order to further progress.

²⁶¹ Schumpeter, *Capitalism, Socialism and Democracy*, (1942), Part I

²⁶² *Id.* 83

²⁶³ *Id.* 84

This attitude was also present in his defence of the monopolistic business practices engaged in by the industrialist at the turn of the last century. This defence basically involved suggesting that because these monopolies were ultimately more efficient than the prior industrial structures; this must be better for society. While the argument about the economic efficiency of monopolies is still actively debated, there is one aspect of this argument that Schumpeter did not address and that his supporters seem happy to ignore. That aspect has to do with the method in which these monopolies are created.

Whereas it is presumed that these monopolies evolved as a result of superior competitive models; there is ample evidence to suggest that many of the monopolies he referred to were created more as a result of unscrupulous business practices, than they were as a result of the competitive advantage provided by an original business idea.²⁶⁴ Which means that the destruction which Schumpeter so enthusiastically endorsed was more of a malicious self-serving nature, than a gale of creative destruction. This is not to say that these monopolies were not founded on an original business idea which could provide a competitive advantage; but rather that existence of the original idea was often used as a screen, to obscure the use of business practices that had nothing to do with the competitive advantage. These unscrupulous business practices involving many of the activities subsequently deemed illegal under competition law, but also activities like union-busting, and consumer fraud. That these practices occurred is undeniable. What is also undeniable is that Schumpeter not only ignored them but did so in a wilful manner. This wilful ignorance being evident in Schumpeter's dismissive attitude to these practices and the theorists that studied them.

'we are set to wondering what world these theorists live in, unless, as stated above, fringe-end cases are all they had in mind.'²⁶⁵

Ironically this is precisely the same perchance for wishful thinking that Schumpeter condemned in others.²⁶⁶ However it is hardly surprising that his theory which focuses on the end result, would ignore the means by which that result is achieved, particularly if those means do not conform to ideological agenda which was being promoted. For Schumpeter the objective was to discredit communism, and any substantive criticism of capitalism would be counterproductive to that goal.

However, this question of the means is important because it could be that the structure of an industry may not have occurred without the unscrupulous behaviour. And even if economic efficiency did dictate the structure, it is almost certain that the absence of abusive behaviour, the distribution of rewards would have been dramatically altered. A primary manner in which this alternative distribution could have occurred would have involved industrialists buying out competitors, rather than driving them out of business through anticompetitive business practices. These buyouts would have provided those competitors with the resources needed to start new businesses and allowing them to continue to play an important role in the economic development of society. Of course, it could be argued that the funds saved by the industrialist, were more effectively invested than they would have been by the competitor that they drove

²⁶⁴ The most obvious examples of this ruthless behaviour can be found in the history of the early oil and railway barons in America. See for example; Matthew Josephson, *"The Robber Barons"*, (Harcourt, Brace and Company, 1934), Daniel Yergin, *"The Prize"* (Simon and Schuster, 1991)

²⁶⁵ Schumpeter, *Capitalism, Socialism and Democracy*, (1942), p 85

²⁶⁶ See introductory quote of this chapter

out of business. However, that argument rests on the assumption that only these industrialists were capable of making the best investments, and as such society was better off with an elite few making the economic decision for the entire society. An argument that would appear to run counter to the criticism made by free market proponents of socialism systems, wherein they reject the notion that an elite few can make the best economic decisions for the entire society.²⁶⁷

Applying Schumpeter's creative destruction premise to intellectual property seems relatively straightforward. The "gale" could obviously be represented by a new innovation, which in one way or another renders older innovations obsolete. The "creative destruction" representing the replacement of old business based on obsolete innovations, by new business based on the new innovation. This simplistic argument representing a foundational belief of those that advocate for strong intellectual property rights. For clearly; if it is just a matter of new and better innovation replacing old obsolete innovation, strong intellectual property rights should enable a quick transition which would minimise the transition cost and maximise the economic benefit to society. The problem with this argument is that it is based on an illusion about the innovation process and ignores the same issues that Schumpeter does in his industrialist analysis.

The illusion although seldom explicitly stated, is inherently implicit in the notion of creative destruction. That illusion being that each innovation in and of itself represents some sort of revolutionary advance that is capable of destroying all previous innovations in its field of invention. The evidence of the existence of this implicit illusion can be found in the examples that Schumpeter uses to describe the innovation process. These include description of how railways replaced the mail coach and rayon replaced silk.²⁶⁸ While there can be little doubt that these sorts of revolutionary events do happen, and when they do happen they precipitate a creative destruction process, the problem is that revolutionary innovations are extremely rare, and revolutionary inventions only represent only a tiny fraction of the total inventions.

For proof of the rarity of revolutionary innovations all that is required is a quick examination of any modern technological field. For example; in 1939 Konrad Zuse built the first fully functioning electro-mechanical computer, which represented a revolutionary change in the way that information was stored and managed.²⁶⁹ This initial innovation was however only the beginning. Subsequently there were literally millions of additional incremental innovations, by a vast multitude of inventors, which formed the basis for modern computing technology. The continuous innovation process in the computing industry demonstrating how the innovation process, far from being a onetime revolutionary event, is much more of a long-term evolutionary process. Which is why in the field of innovation, it would be more appropriate to describe advances as a "wind of creative evolution" rather than a "gale of creative destruction". Ironically "evolution" is a term that was not only used by Schumpeter, but one that he felt was essential to understanding of his thesis.

'The essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process.'²⁷⁰

²⁶⁷ Hayek, *Road to Serfdom*, (1944)

²⁶⁸ *Id.* p.120

²⁶⁹ Horst Zuse, "*The Life and Work of Konrad Zuse*" [1973]: "Konrad Zuse also wrote the first algorithmic programming language called 'Plankalkül' in 1946, and he also wrote the world's first chess-playing program using Plankalkül."

²⁷⁰ Schumpeter, *Capitalism, Socialism and Democracy*, (1942), p83

The problem appears to be that there is a lack of understanding of what an evolutionary process involves. Evolution does not suggest that one day there were apes and the following day there were humans. Rather it says that evolution is a process of minor changes in an existing species, which can result in the creation of a higher species or an entirely new species. Regardless of whether these changes represent the main evolutionary path to a higher species, or branches off to create an entirely new species, both the higher species and new species would not exist without the building blocks provided by the earlier lower species. This same evolutionary process happens in innovation. While changes to a technology can create higher technologies or branch off to create entirely new technologies; both the higher technologies and the new technologies are almost invariably dependent on building blocks provided by older technologies.

For example, in the field of computer technology every modern computer whether; tablet, portable or desktop, incorporates substantial quantities of technology created for and incorporated in earlier computers. Which is to say that; even though this process of “creative evolution” frequently alters, supplements or replaces parts of this earlier technology, it never totally abandons the entire technology. This does not mean that the winds of creative evolution won’t result in older computers becoming obsolescent, as the gale of creative destruction assumes. Rather that; even when obsolescence happens the clear majority of the intellectual properties that is incorporated in the older computers retain their relevance, because they are incorporated into the new computer with which some additional more modern technical features. The only obsolete intellectual property being the tiny fraction of intellectual property which is not altered, but actually abandoned in the transition process.

While creative evolution can be observed in all technological fields, it is particularly evident in technological fields where there are interoperability requirements. In these fields, interoperability is facilitated when multiple technology producers adopt and utilize common intellectual property. The use of common intellectual property being “essential” to interoperability not only across devices at any given time, but also in successive technologic advances over a longer span of time. So readily acknowledged is the essential nature of these common intellectual property that they are referred to as “Standard Essential Properties” by the standardisation bodies which are established to facilitate interoperability.²⁷¹ Obviously the notion that these standard essential patents are “destroyed” by every advance in technology is absurd, for even in instances when there is a significant technological advance, there is almost always an effort to maintain backwards compatibility through producing dual mode products and infrastructure.

Regardless of the real rationale, when the notion of creative destruction is replaced by creative evolution, it makes underlying conclusion of worthlessness untenable. For under creative evolution there is a recognition that older intellectual property represents a building block for the new advances and as such remains a vital and valuable part of the technological field. This does not mean that the value of that intellectual property is not altered. Simple math can be

²⁷¹ ETSI IPR Policy gives the following definition of standard essential intellectual property: “15.6 ESSENTIAL as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR. For the avoidance of doubt in exceptional cases where a STANDARD can only be implemented by technical solutions, all of which are infringements of IPRs, all such IPRs shall be considered ESSENTIAL”.

used to show that when new intellectual property is added to a technological field, the proportional contribution of the older intellectual property decreases. If for example one piece of intellectual property is added to one hundred existing pieces, and assuming that the aggregate contribution is stable, the proportional value that those older properties is reduced by 1%.²⁷² This reduction in value is of course is significantly less than 100% assumed under creative destruction. At this point it is worth repeating that all beliefs without supporting evidence are nothing more than mere beliefs, and if there is sufficient evidence to indicate that they are in fact false they should be defined as an illusion.

The importance of this value discrepancy is so fundamental to the legal treatment, or rather mistreatment, of intellectual property that it needs to be considered from the prospective of its impact on the judicial process. If it is assumed judges believes in creative destruction, by definition they will view litigation of legacy intellectual property as an attempt to create excess value out of an intellectual property that has little or no real value. This perception almost certainly would create a positive bias towards the infringers, as this behaviour would likely be considered to be a justifiable response to an effort to unjustly enrich the property owner at the infringers expense.

While the protection provided under intellectual property law, will generally not allow the bias to be manifest in an outright dismissal of the case, it could to be manifest in other ways. The most notable of way would be to permit the infringer to use wilful ignorance²⁷³ as a defence or to allow them to engage in legal attrition. In both cases this effectively represent a situation where it is accepted that one unscrupulous behaviour is being allowed to be counteract another unscrupulous behaviour. Regardless of whether this decision is conscious or subconscious, it still amounts to creating an untenable circumstance for judges, wherein they are forced to circumvent the law in order to avoid what they perceive as an injustice.

This is not the way the courts are supposed to function. If it were true that a certain intellectual property is destroyed when new intellectual property is developed, then the intellectual property laws ought to be changed to reflect that truth. Such a change would provide the judges with the authority they need to dismiss any perceived frivolous and unjust cases and unburden them from of attempting to find alternative methods of balancing out an unjust law. The fact that this change in the law has not happened, would tend to indicate that there is no or little evidence to support a belief in creative destruction of all legacy intellectual property.

Alternatively, if it is assumed that judges believe in creative evolution it would appear more likely that the legacy property owner would receive a fairer trial. This because the judge's

²⁷² It is worth noting that if the new property actually increases the aggregate integrated intellectual property value, this proportionate reduction may not even occur.

²⁷³ Wilful ignorance in intellectual property can be described as a situation whereby users of intellectual property make a conscious decision not to investigate who's intellectual property they are using. This decision is driven by concern over the fact that wilful infringement is treated more severely than unintended infringement by the courts. The wilful infringement determination having been primarily developed as a tool to severely punish intellectual property "pirates" that copy products and fraudulently try to pass them off as originals. An unintended consequence of this dichotomy in legal treatment is that it promotes ignorance. Obviously, any entity engaged in high tech manufacturing is aware that their products are dependant an ever-increasing number of intellectual properties, some of which they will have licensed and others which they have yet to licences. They also know that if they do searches to discover of the intellectual properties which they have yet to licence, their legal status will change form a generic infringer to a wilful infringer. As such to avoid this categorization they simply avoid searching for any intellectual property which might be relevant to their products. It should be noted that this disincentive to search is the exact opposite of primary rational for intellectual property protection of providing an incentive to disclose.

awareness of the continuing value would negate any preconceived notions of an infringement actions as some sort of attempt at unjust enrichment. This elimination of potential bias could not only manifest itself in less a less tolerant attitude towards litigation abuses like wilful ignorance and legal attrition but would also allow the judge to take a more balance view on the true value of the infringed property. A value which would put the infringed intellectual property in proportional context with other properties inherent in the technology.

As mentioned earlier in addition to the illusion related to “creative destruction”, there is also the issue of how such notions can be used to hide or justify unscrupulous business practices. In the field of intellectual property rights those unscrupulous practices can be broken down into three separate forms of behaviour. The first and most serious is the theft of intellectual property by unlicensed and unauthorized use. The second and third are the practices of disproportionately undervaluing and overvaluing of intellectual property by potential licensees and licensors respectfully. In all three of these cases the notion of “creative destruction” can be used as a justification, for these behaviours. Behaviours which would become much more noticeable and therefore less feasible if the notion of “creative destruction” was replaced by “creative evolution”.

With respect to theft of intellectual property by unlicensed use, clearly if old intellectual properties are considered to be destroyed by new intellectual property it is not that unreasonable to believe that the old property had little or no value. This misconception would imply that there is little or no need to bother with a license. Even when the owner of the old intellectual property takes an authorised user to court creative destruction may create a conscious or subconscious bias, which the judge can use to justify declaring an old intellectual property is either invalid or un-infringed, when this is not the case.

While this argument is never articulated in quite such a brutal a fashion in the courts, there is every likelihood that it is an underlying attitude for an incontestable infringement. An incontestable infringement representing a case where there is unequivocal evidence of the infringement of a clearly valid intellectual property. The most obvious examples of an incontestable infringement being cases where the infringement involves standard essential intellectual properties which are indisputably part of an existing standard. That the actual infringement may be based on the strategic decision to either; engage in wilful ignorance, or to practice legal attrition, does not eliminate the underlying notion inherent in creative destruction. Rather these decisions are simply practical manifestations of the notion. The first indicating the perceived worthlessness of the intellectual property and the second indicating the perceived economic insignificance of the intellectual property, relative the cost of pursuing an infringement action. In such cases when the judge declares invalidity or non-infringed they are using a belief in creative destruction to justify theft.

The same logic would be behind a decision which, while not invaliding the validity or infringement of an intellectual property, disproportionally under values it. If new intellectual property is believed to “destroy” existing intellectual property, then it would appear obvious that the value existing intellectual property must be minimal. While this may appear to be only slightly different from a situation where an infringer seeks to avoid taking a license, it is not. The significant of this difference is in that fact that the infringer is actually recognising the validity of the intellectual property and their infringement of it. This makes them a willing licensee who is disputing the value of the license and asking the court to arbitrate that value. In the example given above that difference would range somewhere between the nominal sum that the

infringer is willing to pay, and the value demanded by the property owner. The value being demanded by the property owner being the other potentially unscrupulous behaviour justified by the creative destruction myth.

Like disproportional undervaluation, creative destruction also promotes disproportional overvaluations of new intellectual property by both a direct and indirect effects. The obvious direct effect is that if new intellectual property destroys existing property, then that new property must be responsible for all the intellectual property value generated in the field. While this is clearly an absurd rationalization it is none the less evident in the behaviour of new entrance to certain technological fields, which seek to avoid paying royalties to older contributors because they claim that their innovations have revolutionized the product.

The indirect overvaluation occurs when owners of older properties observe newer contributors making enormous profits from small contributions and presume that they too deserve similar rewards for their own small contributions. A behaviour that would tend to indicate that they view their intellectual property as valuable as the newer contributions even though theoretically it should have been destroyed according to the creative destruction theory. This indirect overvaluation being supported by another legal proposition which suggests that an intellectual property licences do not represent license to use the underlying intellectual property, but rather a commitment not to sue for the use of that property.²⁷⁴ Under this proposition the quantum and therefore inherent value of the intellectual property is irrelevant, the more important factor being the ability to avoid injunctive relief. To the extent that this proposition relies on strong property laws for its existence, it is itself a product which is indirectly related to creative destruction.

Fortunately, when the creative destruction is replaced by creative evolution this negates the direct arguments underlying theft, disproportional undervaluation and overvaluation. For not only does it allow judges to recognise the retained value of older intellectual property, it also allows the more accurately estimate of that value by placing it in context with the other intellectual properties which are integral to the technology.

With respect to disproportionate overvaluation, if it is accepted that most technological products rely on an ever-increasing number of aggregated intellectual properties and that individual properties within that aggregate only contribute a small part of the innovation, this should constrain the severity of the remedies when infringement is found. Specifically, it should limit automatic injunctive relief to cases where the infringer is unwilling to enter into good faith negotiations and limit damages to the best estimate of value provided, rather than being based on the potential damage that could be inflicted through injunctive remedies. Practically this would restrict the grant of injunction relief when it is apparent that the infringement is the result of a practitioner standing firm against excessive licensing demands on an essential intellectual property.

This would mean an adopting a new bifurcated concept of wilful infringement, which could be categorised as; offensive wilful infringement, and defensive wilful infringement. Offensive wilful infringement would be where the infringer knows that they are infringing on the intellectual property owned by others, and have shown no desire to seek a license, or have not negotiated in good faith with the owner. Defensive wilful infringement would be where the

²⁷⁴ If this concept of a licenses not to sue was to be transferred to a main street retailer, it would be the equivalent of a supplier of a single product demanding the same rewards as a supplier of multiple products.

infringer knows they are infringing on an essential intellectual property, have negotiated in good faith to licence the property, but have not been able to agree terms with the owner. Obviously if the “patent trolls” are simply taking advantage of a legal system which facilitates extortion, removing the excessive rewards which can be received from that extortion, should fundamentally change their calculations and help to eradicate the behaviour.

An additional benefit of bifurcation of wilful infringement would be that it would; not just eliminate the necessitate of wilful ignorance but incentivise intellectual property users to actively search for property that they use and enter into negotiations with owners of those properties. This transition from wilful ignorance to incentivised awareness, would not only be good for all intellectual property owners, it would also be good for users. This because in doing their searches, the engineers that work in intellectual property users will become more aware of the latest technological advances and therefore be better prepared to advance the technology themselves. This raised consciousness reflecting precisely the distribution of knowledge justification used for intellectual property.

The argument that licensing agreements are just agreements not to sue, is also negated with a shift to creative evolution. This because if it is excepted that existing intellectual property retains some proportional part of its value until it is no longer used, that idea of proportionality in and of itself negates the idea that one property can have the same value as ten thousand. Negating this concept would benefit users, who could argue that proportionality needs to be a major factor in infringement remedies, but it would also benefit intellectual property owners and society as a whole. It would benefit intellectual property owners because in order to maintain their proportionate share of the industries intellectual property revenues, they would be forced to create new intellectual property, thereby ensuring that their long-term competitiveness and viability. This increased effort to create new properties would naturally be beneficial to society, as it would mean more advances.

5.2 An Alternative Theory

Whilst demonstrated the invalidity of the illusions attached to foundational theories used to support the strong intellectual property rights should be enough to facilitate an openness to changing the interpretation of intellectual property law, in order to do so a new foundation likely needs to be provided. This is because without providing appropriate foundations, intellectual property law would become a muddle of contradictory and incoherent decisions that reflect the different opinions of different courts on how best to modernise the law.

This raises the question of how and where to find an economic theory to support a new legal method of treating the new property structure. The newness of the property structure being embodied in the fragmented ownership of integrated intellectual property which pervades the high technology industries. Ideally such a theory would not only accurately describe the new structure but also incorporate predictive capabilities that would regularly and accurately reflect real world experiences. These predictive capabilities not only showing what happens when absolute property rights are applied, but also what happens when proportional property rights or correlated property rights are adopted.

Given the pervasive efforts over the last forty years to promote the neoclassical economics ideas of wealth-enhancing value of free markets based on absolute property rights, it is somewhat ironic that a new theory developed in support of those ideas, can be modified into

the new foundational theory tempering intellectual property rights. That theory being Michael Heller's theory describing the "Tragedy of the Anti-Common",²⁷⁵ which Heller developed as an extension to Hardin's "Tragedy of the Commons".²⁷⁶ Not only does this new theory accurately describes the fragmented structure of intellectual property ownership inherent in most high technology industries, also provides a good prognosis of what happens when those fragmented ownership structures are granted absolute property rights. The main problem with using this theory as a foundation for modern intellectual property, is that Heller appears to blame the tragedy primarily on a fragmented property structure, with no responsibility being placed on an application of absolute property rights. This attitude being overtly stated in the subtitle of his book which expanded on his initial theory "*How Too Much Ownership Wrecks Markets, Stops Innovation and Cost Lives.*"²⁷⁷ *italics added.*

This makes no sense. As described earlier, the fragmented structure of intellectual property ownership is a direct result of the multiple and diverse nature of skill which has been used to create most modern innovations. As such to the extent that Heller condemns a fragmented ownership structure, he is condemning this multiple and diverse source of innovation. A condemnation that directly contradicts the realities of the modern innovation process, as there can be little question that a large and diverse innovation system, will generate more and better innovative ideas, than a smaller centrally controlled system. Fortunately, Heller's prescription doesn't detract from the validity of the fragmented ownership issues identified in his theory, and all that is required to make his theory a foundation for modern intellectual property law, is to find and justify an alternate solution which celebrates, rather than condemns, the fragmented property structure he identified.

While such a solution cannot be found in the neoclassical ideology, it becomes surprisingly obvious if the search is opened up to include the rival ordo-liberal ideology. The difference being that unlike neo-classicism, ordo-liberalism recognises that unfettered capitalism can often lead to market failures which generate unjust and inefficient results. Which means that ordo-liberalism is much more open to the idea of enacting regulations or changing property rights in order to maximise economic justice and efficiency. Whilst replacing ideologies may appear like a dramatic step, it isn't actually that much of a change. The truth is that; the even though the neo-conservative ideology may be averse to regulations and redefining property rights, there are few neoclassical advocates who totally reject the idea that these can enhance efficiency. Which implies that even neo-conservatives are in reality; closet ordo-liberals. This closet support is important because it means that rather than attempting to get neo-classical supporters to switch ideologies, all that is really required to get them to expand the range of regulations and property rights definitions that they are willing to admit provide economic benefits.

That a solution can be found in the ordo-liberal ideology should not come as a surprise to parties familiar with the "Tragedy of the Commons", who will know one solution to that tragedy was also found using ordo-liberal principles. In particular Hardin himself proposed a solution using "mutual coercion, mutually agreed upon".²⁷⁸ A proposition that while elegantly phrased does nothing more than suggest that regulations should be adopted which avoid the tragedy. The imposition of these regulations in the Tragedy of the Commons has been referred to as

²⁷⁵ Heller, *Tragedy of the Anticommons*, (1998)

²⁷⁶ Garrett Hardin, "The Tragedy of the Commons". *Science* 162 (3859): 1243–1248. [1968] see below

²⁷⁷ Heller, *The Gridlock Economy* (2008)

²⁷⁸ *Id.* Hardin p

generating the “Comedy of the Commons”²⁷⁹. It is called a comedy because of the positive outcome that it achieves, whilst still maintaining the common property structure. In a similar way it is argued here that regulations can be used as a solution to the Tragedy of the Anti-common, in a way which both produces a positive outcome and maintains the fragmented ownership structure. However, because this positive outcome is better than any outcome that can be achieved by concentrated central ownership, it deserves a title that is more than a mere antonym of a tragedy. The title should also encapsulate the notion that it is the most just and efficient way of dealing with fragmented intellectual property, which is why the name “Triumph of the Anti-commons” has been coined and will be used by this author. Provided below is a description and critic of each of these theories, which hopefully will provide a clear understanding of why the Triumph of the Anti-Commons represents the most appropriate economic foundation for the laws which deal with correlated intellectual properties.

5.2.1 The Tragedy of the Commons

The tragedy of the commons was a social theory²⁸⁰ that became an economic theory focused on the problems which occur when resources are commonly shared. While it does not specifically relate to the issues of fragmented intellectual property rights, it is included because it provides both the structural and ideological basis for Heller’s anti-common tragedy.

According to economic theory a commons tragedy will typically occurs whenever there is a finite common resource and individuals are able to independently decide how much of that finite common resource they will take for their own use. When this happens, self-interest will provide individuals with an incentive to use more of the resource than they should if they cooperated. However, this increase usage harms other individuals by either; restricting their use or by making the usage unsustainable. Unsustainable usage occurs if the increase usage exceeds the natural limit and will eventually result in the complete destruction of the common resource. Individuals pursue this unsustainable usage because they do not consider the total social cost of their decision. Extinction of species due to over-fishing, over-hunting, deforestation, and climate change represent real world examples of this process.

Over fishing is the most regularly used example of a commons tragedy because it is something most people have heard of and it easily lends itself to both hypothetical and practical analysis. A typical hypothetical example of this analysis would have a fish stock that harvested by fisherman and replenished on an annual basis as old fish spawn new fish. To replicate nature, it is generally assumed that there is direct correlation between the existing stock of fish and the number of new fish that are born. Obviously, any harvesting of the fish that exceeds the natural limits of reproduction, not only reduces the overall fish stock but also limits the ability of future reproduction.

Figure 1 represents a situation where one party is fishing at an unsustainable level and two others are fishing at sustainable level. In the first few years there does not appear to be a problem as everyone is still able to continue fishing at their chosen level even though the fish stock is being depleted. It is only after several periods that the true magnitude of the tragedy unfolds. At that time stocks are so depleted that a virtual ban on fishing would need to be

²⁷⁹ Rose, Carol M., “The Comedy of the Commons: Commerce, Custom, and Inherently Public Property” (1986). *Faculty Scholarship Series*. Paper 1828.

²⁸⁰ *Id.*, note 35

imposed if the stock is to be saved. All this because one party made an uncooperative decision, that they thought would optimise their personal benefits, which instead turned into a tragedy for both the individual and society.

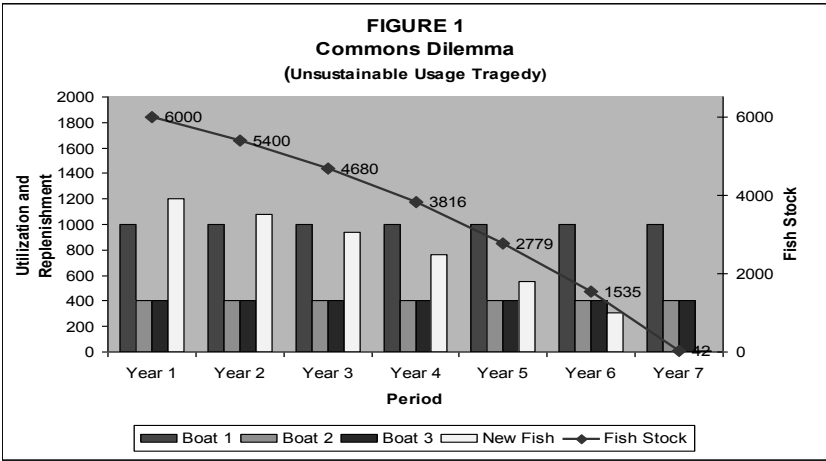


Figure 1

The neoclassical solution to this tragedy is for the property to be taken from common use, and put into private ownership, which in this example would mean assigning all fishing rights to one party. The idea being that once this privatisation occurs, the owner would ensure that the resources are managed in a way which is both sustainable and maximizes economic efficiency, because it is now in their self-interest to do so. In the example provided this would mean that a single fisherman would be allocated the fishing rights and because he/she is a profit maximizer, they would only catch an amount equal to the annual reproductive rate of the fish stock, as this will maximise the long-term profit from the resource.

This proposed solution is clearly compatible with the Coase theorem, which argues that economic efficiency will occur when ever clear property rights are implemented, regardless of how they are allocated. Unsurprisingly it suffers from the same moral flaw as the Coase theorem. That moral flaw being that this solution does nothing to ensure that those who lose access to the common, are not left to starve in the same way the Irish tenant farmers were. In addition to the exclusion issues, there is also the moral question about how the right is allocated. Assuming it is a government agency which decides who get the right, how is that decision going to be made? From a strictly profit maximization prospective it should go to the most efficient user, but is profit maximization the right criteria? Maybe the right criteria be the user that agrees to pay the highest royalty for the right or the user that agrees to invest the most into the local economy? In the worst case maybe, the decision is made as a result of “agency capture”. Capture being a process whereby government agencies become subservient to the those that they are supposed have authority over. This is usually done through buying either directly or indirectly the votes of the decision makers. Direct buying occurs when decision makers get some form of bribe or kickback from winning bidders, indirect buying occurs when biased decision makers are

appointed by officials that have received some form of campaign contributions.²⁸¹ Regardless of how the decision is made there will always be a moral argument suggesting that the wrong criteria was used and which resulted in the wrong user being selected.

Aside from the moral issues there are the theoretical and practical questions as to the external effects of privatizing and monopolizing an industry. These questions are particularly relevant for both the suppliers and customers of an industry. Obviously if all but one participant is excluded from the industry, that one participant will have monopolistic buying power with respect to suppliers, and monopolistic selling power with respect to customers. In cases where monopolistic buying power exists it can be expected that the suppliers will have to forfeit some of their profits to the buyer and this will usually lead to a reduction in the number of suppliers. From a customer's prospective the monopolization of an industry will generally result in monopolistic prices, which will mean higher costs for consumers. Using the fishing example, the enhanced buyer power would enable the sole remaining fisherman to extract larger discounts from suppliers on everything from fishing tackle to fishing boats. At the same time that sole fisherman may also be able to charge higher prices to consumers or the canning factories which rely on local fish to operate. The double benefit of reduced costs and higher prices providing the sole fisherman with a higher profit than the aggregate available to all the fisherman that were operating under the common structure. All of which are routine outcomes according to monopoly theory and begs the question; why is a monopoly more efficient than a competitive market?

There is one further issue which can occur when an industry is privatized in a monopolistic manner, which is all too often ignored. That issue is what happens if the sole user decides that it is better to maximise the short-term personal profits, than long term industry profits. This could happen for several reasons. Not the least of which is that sometimes the short-term profits are sufficient to allow the party to retire in luxury.²⁸² Even if the user does not want to retire, imagine what happens if they believe that investments in other industries can provide better returns or a better lifestyle. What is to prevent the fisherman from catching all the fish in a single season and then exiting the industry to go into wine production? If such an action would net the fisherman ten years' worth of profits and those profits could be invested at a rate of return higher than the average yearly fishing profit, the fisherman would be maximising profits even though the resource would be destroyed. Of course, such action could be prohibited by the user licenses, but if restrictions on a single user licence are acceptable, why would it be any less acceptable to impose similar restrictions on a multiple of commons users and thereby avoid the approbation and monopolisation issues. Adopting restriction on multiple users representing an ordo-liberal solution to the Tragedy of the Commons which was recommended by Hardin.

²⁸¹ These indirect purchases are not necessarily illegal and may not even be considered unethical. For example; campaign contribution by coal companies, to politician that advocate less restrictive pollution regulations and who will appoint less restrictive regulators if appointed, would not "per se" be either illegal nor unethical.

²⁸² Standard and Poor's Analysis email on subprime loans "Let's hope we are all wealthy and retired by the time this house of cards falters", House Oversight and Government Reform Committee [2008]

5.2.2 The Comedy of the Commons

As the name implies “the comedy of the commons” is meant to denote the circumstances where positive outcomes arise even when the property is part of a common.²⁸³ The happy outcome being facilitated by what Hardin referred to as a solution which involves; “Mutual coercion, mutually agreed upon”.²⁸⁴ While this sounds complicated it means nothing more than having the users to agree to a binding solution to the potential tragedy. Not only is this solution not complicated, it is also not new. For centuries if not millennium societies have treated some property as commons, granting open access, but limiting use. Such was the case in many 15th century villages in Europe where common land had 'restrictions of planting crops and raising animals to prevent over use.'²⁸⁵

Using the fishing example this would take the form of all fishermen agreeing to limit their catch to sustainable levels. If the aggregate catch of all fisherman is limited to the replenishment rate of the resource the fish stocks are maintained at a constant level and the long-term viability of industry is ensured. Figure 2 provides one possible solution to the problem. In this solution, basically society has coerced the fisherman who was taking more than his propionate share of the fish to reduce his catch to the same levels as the other fishermen. Of course, the same long-term viability could occur if all fishermen reduced their catch by the percentage needed to achieve sustainability or if the smaller fisherman were the only ones who reduced their catch, but the proportional rule appears to be the most just. This solution can be facilitated either through a voluntary basis or alternatively through formal regulation.

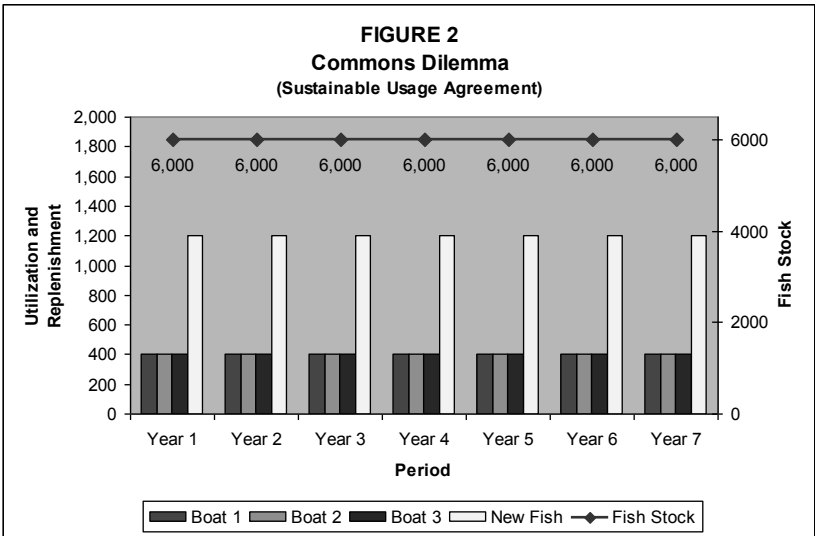


Figure 2

²⁸³ Rose, Carol M., "The Comedy of the Commons: Commerce, Custom, and Inherently Public Property" (1986). *Faculty Scholarship Series*. p 723 "Thus here, the commons was not tragic, but comedic, in the classical sense of a story with a happy outcome."

²⁸⁴ Hardin (1968)

²⁸⁵ Jerome Blum, The Internal Structure and Policy of the European Village Communities from the Fifteenth to the Nineteenth Century, *Journal of Modern History*, Vol. 43 [1971] pp 541, 542)

If it is done on a voluntary basis it would likely be done through a trade association agreement, under which all the users of the common have gotten together and agreed on a formula for sharing the resource. There are at least two benefits to a voluntary agreement. The first benefit is that the users often have the best information about the resource and as such are in the best position to understand the threat to the resource. Assuming this is true, this would mean that they are also in the best position to decide what is needed to protect the resource. The second major benefit is that theoretically all users have “bought in” to the voluntary agreement, which means that they are all presumably committed to abide by it.

There are however several problems with the voluntary solution. The first of which is that voluntary agreements negotiations may collapse because the users simply cannot agree on aggregate or individual usage limits. The second problem is that even all the participants in an industry do get together to restrict output, there is always the question of whether they are doing so to protect the resource or solely to raise prices. The latter being a direct violation of basic competition laws. The third problem is that the agreed upon terms may not be enforceable. This is particularly true if there is no formal contract that is binding on all the users and it is just common understanding. However, it may also occur if the terms of the contract are so vague they can be interpreted in several different manners or if there are no clear or agreed consequences for the breaching the terms of the contract.

This third problem is likely the most underappreciated, although it may be the most dangerous. It is the most dangerous because if the agreement does not provide clear terms and unequivocal consequences for breaching those term, the same users that were abusing the common before the agreement may just pretend to abide by the agreement while continuing to abuse the common. If this happens the agreement would be providing nothing more than a false sense of security which would lead other users to mistakenly believe that a resource is protected when it is not. Such a false sense of security in turn may lead those same users to ignore the early signs of resource collapse and until it is too late.

It should be noted that even if the voluntary agreement has the required specificity, and unambiguous consequences, any breach of contract will almost never be enforced through a vigilante process. Rather they will most likely be enforced through an arbitration process or through the courts. This means that the mutual coercion referred to Hardin almost always involves the use of state police powers. As such, the only difference between a voluntary agreement and a regulated solution is the source of “mutually agreed upon” part of his solution.

Under government regulation this source of mutually agreement comes from the state agencies, which are supposed to represent the will of the people. Ideally the agency will allow for sufficient consultation with the commons users to determine the magnitude of the problem and the validity of their proposed solutions. In the event that the users do not understand the problem or are unable to provide viable solutions the agency should engage experts to study the problem and recommend solutions. The most important benefit of a regulated solution is that the solution is not subject to the unanimity constraints and can be imposed on users that would not voluntarily participate in any usage restrictions. Inherent in the imposition of the solution is the coercive power of the state which upholds the regulations. Another big benefit is

the expectation that the experts engaged by the agency may be more knowledgeable than the users and therefore a better solution developed.²⁸⁶

The two biggest problem with the regulatory solution is that the agency may be incompetent and or it might be captured. An incompetent agency would be one which either does not understand the problem or does not issue the most effective and efficient solutions. A captured agency will be one which is biased towards will one or more of the users and produces regulations that unjustly discriminates between the users. Of course, there is nothing to suggest that an agency could not be both incompetent and captured. Lesser problems include the likelihood that users will be more prone to cheat because the agency is imposing the limitation which they may not agree with. Regardless of the benefits and problems, maintaining multiparty access to the common clearly avoids the moral issues revolving around exclusion and initial allocation. Further if it is appropriately regulated it will likely result in a more efficient outcome than would be provided by a creating a monopoly through privatization.

The only theoretical negative aspect of such an arrangement is that it appears to contradict the neoclassical preconception about the wealth enhancing value of property rights based on absolutism. However just because a solution contradicts a neoclassical perception does not mean that it is solution is as fault, it may mean that the neoclassical idea that is at fault. It should be recalled that this is an idea which has remained relatively unchanged for centuries regardless of the change in ownership structures during the same period. While neoclassical proponents appear to believe that the passage of time has enhanced the credibility of absolutism,²⁸⁷ it is more likely that passage of time combined with changing circumstances have rendered the absolutist idea obsolete. The fact is that since the idea was first introduced in the 18th century; societies have moved down the property continuum²⁸⁸ and the legal concept of property rights has evolved far beyond that which provides owners with absolute rights to deal with their property in a despotic manner.²⁸⁹

This mismatch between legal and economic theory would tend suggest that the ideological preconception may have run aground on the practicalities of the ever-increasing interrelationship between properties, property owners and society at large. Which is to say that; societies have evolved from a time when there were few property owners and their properties were so separated from each other, that owners could treat their property as an individual fiefdom. In the modern world where property ownership has become almost universal, and properties so intertwined, it is almost impossible use property in a way that does not have external effects on neighbouring properties. It is these external effects which have forced that legal jurisprudence and regulations to evolve away from the notions of splendid isolation and despotic control. Ironically it appears that the neoclassical proponents, who have been so instrumental promoting property ownership, reject the consequences inherent in the expansion of the number of property owners. This irony being vividly illustrated in the proposed neoclassical solution to the tragedy of the anti-common.

²⁸⁶ Naturally there is nothing to prevent a trade association from engaging the same experts to develop the same solution under a voluntary agreement, assuming that they can get the funding they need to pursue that option.

²⁸⁷ Richard Posner, *Economic Analysis of Law* 28 (2nd ed. 1977), referring to Blackstone Commentaries states that the wealth enhancing value of property rights "has been well known for hundreds of years."

²⁸⁸ See Chapter 14: The property continuum

²⁸⁹ *Id.*

5.2.3 The Tragedy of the Anti-Commons

The concept of a property structure that would eventually be defined as an “anti-commons” was presented by Michelman in 1982, who described it as “a type of property in which everyone always has rights respecting the objects in the regime, and no one, consequently, is ever privileged to use any of them except as particularly authorized by others”.²⁹⁰ In 1998 Michael Heller expanded the concept of “anti-commons” by developing a theory which he called “the tragedy of the anti-commons”.²⁹¹ Under this theory Heller postulated that the anti-common property will lead to a tragic underuse of the property existence, which is the very opposite of the overuse experienced under the “tragedy of the commons”. While there have been several additional works which have expanded upon this theory,²⁹² Heller maintained his authoritative role on the topic with the publication of his 2008 book titled *Gridlock Economy*.²⁹³

Heller found his inspiration for the theory about the tragedy of the anti-commons in post-communist Moscow. While working with the World Bank his team were asked by local authorities to find out why there were such high vacancy rates in shopping centres space vacated by the Soviet era businesses which went bust. These vacancies puzzled the authorities because there had been a dramatic growth in the number of road side kiosks on streets adjacent the vacant malls, which appeared to indicate that there was abundant demand. Heller first established that the vacancies had nothing to do with demand, as several kiosk operators indicated that they would be interested in moving into the vacated space. He then explained how the vacancies were a result of as fragmented property rights which resulted in an anti-commons tragedy.

These so-called fragmented property rights were created as part of the transition to market-based economy, in which former communist bureaucratic roles were entrenched by granting them formal bureaucratic property rights. As counter intuitive as it sounds, the entrenchment of these bureaucratic roles was recommended as part of a neo-classical solution intended to aid the transition away from communism. This recommendation being founded on the Coase’s neoclassical theory which maintained that all that was required for capitalism to flourish, were “clear property rights”. The primary thought being that; once “clear property rights” were established, the market would miraculously overcome any obstacles to future development, by allowing rights holders to trade their rights in the most profit maximising manner. The secondary thought being that; by providing these rights to the bureaucracy it would secure their support for the transition. Unfortunately for the neo-classical supporters this theory proved to be an illusion, as the fragmented property rights proved to be even more inefficient than the discredited communist system it replaced. Somewhat predictably it turns out that granting numerous independent parties with absolute property rights over the same property decreases rather than increases, the liquidity of that property in the market. In the case of the Moscow shopping malls, Heller’s team identified eighteen different authorities that had been granted

²⁹⁰ Michelman, F. I. Property, Utility and Fairness. Comment on the Ethical Foundations of Just Compensation Law, Harvard Law Review [1982]

²⁹¹ Heller, The Tragedy of the Anticommons, (1998)

²⁹² Heller, M. A.; Eisenberg, R., *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, Science 280 [1998]; Buchanan, James; Yoon, Yong (2000). "Symmetric Tragedies: Commons and AntiCommons" Journal of Law and Economics 43 [2000]; Depoorter, B.; Parisi, F.; Schulz, N., *Fragmentation in Property: Towards a General Model*, Journal of Institutional and Theoretical Economics Model" 159, [2003].

²⁹³ Heller, The Gridlock Economy (2008)

some sort of right to decide on new leases.²⁹⁴ In the worst-case scenario this meant that a new lease had to be approved by eighteen separate bodies, and which conversely meant that a new lease could be vetoed by any one of the eighteen bodies. Heller's team ascertained that these veto rights were severely overvalued by many of the various authorities. What happened was that instead of basing their approval fees on the proportional value it had for a potential tenant, they were basing it on the total value of the lease. That these excessive fees were often closely correlated to the amounts needed to fund the authority was probably not a coincidence, however the most crucial factor was that the individual authorities were not required to take into consideration the cost of getting similar authorization from other authorities. This meant that when all the various authorization fees were added up they substantially exceeded any profit that could be realised from the lease. This was at least the official story. What is more likely was that the individuals in the authorities were demanding too much in the way of bribes to authorize the tenancy than the tenancies were worth.²⁹⁵ Whether the aggregate costs were official fees or unofficial bribes does not matter, what matters was that they were in aggregate simply too high to be economical. This then was the foundation of Heller's theory that too many owners create economic gridlock which results in the tragedy of resource underuse.

Whilst Heller's developed his theory about a "tragedy of the anti-commons" relatively recently, this does not mean that these types of tragedies are uncommon or a new phenomenon. In fact, as Heller and others began to search for more examples of anti-commons tragedies, they were probably surprised to find that they could be found in almost every facet of economic activity. A list of some of the examples provided in Heller's book are as follows:

- **Middle age Rhine River Traffic.** -In the middle ages a common way to raise taxes was to charge tolls for travelling on rivers. To enforce these tolls the fortresses were built along the river banks complete with chains and canons which would be used to sink any barge that tried to avoid paying the toll. On the river Rhine these tolls were collected by local Barons, with the central authority embodied in the Holy Roman Emperor deciding which Barons could collect the tolls and how much they could collect. When in the thirteenth century there was a dispute over the throne, this central authority was absent and the freedom from central control allowed the local Barons could charge as much as they wanted in transit fee. The tragedy occurred when too many Barons began to charge too much, and this eliminated the economic viability of transporting goods on the Rhine.²⁹⁶
- **Irish Potato Famine**-Heller claims that the Irish potato famine represented a tragedy of the commons because when farms were subdivided between male heirs and this resulted in farms becoming so small that the only crop which would sustain a family was potatoes. This argument goes on to suggest that when the blight wiped out the potato crops in the 1840's this reliance on one crop proved fatal and therefore the famine represented a tragedy of the anti-commons. This analysis is however somewhat questionable. First, the anti-commons tragedy is supposed to result in under use and there is no evidence of under use in this case. Second, while it is true

²⁹⁴ *Id.* 152

²⁹⁵ To be fair much of this corrupt behaviour, was a direct consequence of the fact that after the fall of communism, many bureaucrats were not paid regular salaries and therefore resorted to bribes to make ends meet.

²⁹⁶ *Id.* p 3

that if the smallness of the farms meant that the only crops which could sustain the families were potatoes, it is false to suggest that the smallness was due to misguided subdivision. The fact is that the vast majority of those that suffered and died during the famine, were allocated their small plots in exchange for their labours on absentee landlord farms. This practice of providing farmers with a place to grow crops in return for their labour representing a common form of sharecropping in Europe at the time. The critical issue was that while this form of payment may have provided a subsistence living in the ordinary years, it could not do so during the blight. It should be noted that Irish farms continued to produce an abundance of non-potato crops during the plight, most of which was exported in order to maintain the pre-plight incomes of their absentee landlords. If these landlords had chosen to share some of those crops with their workers, the famine could have been avoided. This is what happened in the rest of Europe where there was no famine despite the potato blight spreading across the entire continent. These facts would tend to suggest that the Irish Famine was not so much a tragedy of the anti-commons but a tragedy of unbridled greed.²⁹⁷

- **Urban Development**-In most metropolitan cities much of the real estate is divided has been divided into small property holding. For large urban projects to be possible, these smaller holdings must be brought together to form a large property holding. The tragedy occurs when owners are; either unwilling to sell their smaller holdings or they demand too much for their properties. When this happens, the large development become impossible to build or become economically infeasible. This lack of development is considered to be a tragedy because it represents a loss of economic activity in the municipality.²⁹⁸

- **Public Infrastructure Development**-Whether airports, highways, or hospitals, the construction of public infrastructure almost always requires the accumulation of significant amounts of privately-owned property in order to completed. When private owners refuse to sell or ask too much for their property this will prevent the infrastructure from being built which would be a clear example of a tragedy of the anti-commons.²⁹⁹ Indeed it is not hard to imagine that the owner of the last piece of land located in the middle of a proposed superhighway would demand an excessive price simply based on his ability to hold up the project. This holdup action representing the very essence of neoclassical profit maximising behaviour. While paying holdup prices to one seller is possible, clearly if too many individuals are able to make unreasonable demands, (or alternatively refuse to sell their land), many roads, railway tracks, dams, hospitals and other essential infrastructure projects would never have been built. They would not have been built because the government would have been unable gather the necessary land to build the projects or the price being demanded by the land owners would have been so high as to make the projects unfeasible.

- **U.S. Airplane Manufacturing**-In the early days of aviation there were not that many parties which held patent relevant for the construction of airplanes. The most significant of which were the Wright Brothers, who famously were the first to achieve

²⁹⁷ *Id.* 129-130

²⁹⁸ *Id.* p 108-111

²⁹⁹ *Id.* p 117

controlled flight of an aircraft at Kitty Hawk, and the Curtiss Company, the nation's leading integrated aircraft manufacturer. Heller repeats the accusation that because these manufacturers could not agree on licensing terms, aircraft manufacturing was becoming gridlocked and this gridlock represented a tragedy not only for the two companies but for the American aviation industry as whole which was being surpassed by the European aviation industry.³⁰⁰

- **Drug Development Tools-** In the 1980's the U.S. government allowed the patenting of medical research tools. While this allowance encouraged the development of a range of new research tools, the licensing fees charged for using those tools increased the cost of doing research. The tragedy arises when the increased cost of licensing fees outweighs the potential profit from doing the research. This happens when too many owners charge too much for their licenses.³⁰¹

- **Oil Drilling Prohibitions.** -In America, land ownership often includes the subsurface mineral rights including oil and gas rights. However, these subsurface rights can be separate, or separated, from the surface rights. When this happens the surface owner may not want to allow the extraction of the subsurface minerals, because it will damage or degrade their surface property. If surface owners can prevent the extraction this would represent tragedy of anti-common for the mineral extraction operations. According to Heller a tragedy of this nature occurred in 2004 when Alaska enacted legislation that required extensive administrative reviews if land owners objected to oil and gas drilling activities.³⁰² Presumably there would be not be an anti-commons tragedy if oil and gas companies could drill where ever and when every they liked. Such a proposition being strikingly similar to the argument that it does not matter who has the right to pollute a stream.

Looking through these examples it's clear that Heller considers an anti-common tragedy as any situations in which a fragmented ownership structure leads to property underuse. On this point there can be little disagreement as this would appear to be the definition of an anti-common tragedy. Where there is room for disagreement is in Heller's assessment of the cause of tragedy and his proposed solution. For while it initially appeared that Heller was going to adopt a pragmatic approach to in these matters, he instead appears to adopt a more ideological approach.

The indications of a pragmatic approach can be found in the early pages of his book where he comments on the changes in the law which were enacted during the commencement of the commercial aviation industry to avoid aviation airspace gridlock. The change in the law involved reducing airspace ownership rights of surface property owners; to one thousand feet above their property, from the previously held notion of unlimited rights. The previously held notion reflecting the ancient maxim "Whoever owns the soil also owns the sky and the depths". This change was necessary, as without it, airlines would have had to negotiate transit rights with every property owner that they flew over, something which was simply not feasible. In commenting on this change in the law Heller declares;

³⁰⁰ *Id.* 30-31

³⁰¹ *Id.* p 4-6,50-58

³⁰² *Id.* 132-134

'The courts and legislators got this one right. By legal fiat, we eliminated, adjusted—some sticks in the bundle of rights we call “private property” to accommodate a potentially valuable new technology. No compensation was due from the government or from fledgling commercial air carriers because nothing was “taken” from private landownership. Such property rights adjustments should not shock you. From a historical point of view, it is wrong to see private ownership as fixed and unchanging. Even the staunchest private-property system are always adapting rights to manage new resources.'³⁰³

In declaring his support for this change in the law, Heller is articulating a rejection of ideological dogma in favour of pragmatic analysis. This pragmatic analysis reflecting the principle that property laws need to evolve in order to reflect changing circumstances. Which makes it even more surprising that a similar pragmatism does not appear to be apparent in either his analysis of the problem or his proposed solution. As to his analysis of the problem Heller concludes as follows;

'Gridlock is a human creation that does not follow from any immutable laws of nature. It is not intrinsic to an economy or culture. Instead, underuse results from mistakes and gaps in economic, legal and social organization. It is an artefact of ownership gone awry.'³⁰⁴

This analysis begs the questions; what are the “*immutable laws of nature*”, and which of those laws is it that “gridlock” does not follow. What it would appear to be suggested is that under natural law no resources are wasted because ownership is disputed. However, it can't be the case because nature is full of waste. What is more likely is that Heller is asserting that the neo-classical ideal of absolute sovereignty over property is an immutable law of nature, and fragmented ownership conflicts with that ideal. If this is the case; it is a bold assertion, for it elevates disputed ideological assumptions to the level of indisputable universal law, not to mention that fact that it tends to rewrite six million years of human history in which property resources were shared.³⁰⁵ Given the issues with this first assertion, it is perhaps best to ignore it and move on the next assertion. This assertion suggests that gridlock over property disputes are “not intrinsic to an economy or culture”. Where this assertion comes from is unknown, but it is clearly mistaken. Literally since the dawn of mankind, humans have been fighting over disputed economic, cultural, or ownership issues. If his assertion were true, most of those conflicts would not have happened.

What's left are Heller's last two assertions which appear to suggest that it is “mistakes and gaps in economic, legal, or social organizations”, which have resulted in “ownership gone awry”. Assuming the “ownership gone awry” refers to the fragmented ownership these assertions suggest that Heller believes any economic, legal or social policy which results in fragmented ownership is a mistake, or conversely that sound legal and social policies tend to promote and maintain unitary ownership.

The problem with this assessment is that again it ignores the march of human history towards truly universal property rights, which guarantees everyone's right to own property. Further it

³⁰³ *Id.* p 29

³⁰⁴ *Id.* p 187

³⁰⁵ For a more analysis of the development of ownership right see Chapter 14 which covers the property continuum.

does nothing to address the legal issues inherent in inherently integrated properties, most notably correlated intellectual properties. For example, how does legal system grant sole ownership rights to integrated intellectual property which has been created by thousands of independent inventors and innovators? Should all but one of those inventors and innovators be stripped of their creations in order to facilitate the unified property ownership ideal? Wouldn't such an action be a direct contradiction of; not only the universal property rights but the neoclassical notions of absolute property rights?

Logic dictates that the way in which a problem is defined will be reflected in the proposed solution.³⁰⁶ After defining the cause of the tragedy as "mistakes and gaps in economic, legal or social organization", which lead to a fragmented ownership structure, the most logical solution must involve in some way change economic, legal and social policy to avoid fragmented property ownership. Unsurprisingly, this is precisely the primary solution that Heller most advocates to solve a tragedy of the anti-commons. This solution being proposed in both an ex ante and ex post form.

Under its ex ante form Heller's primary solution requires a constant vigilance to identify and avoid situations where "people own small chunks of things that can be best used in larger bundles"³⁰⁷ This vigilance to be particularly acute when property rights are first being assigned in newly emerging markets because;

'The greatest risk of gridlock arises when governments define property rights for the first time. ... Regulators don't have a strong passion to get rights right. They want to please competing constituencies-everyone should get something-ant they fail to realize that privatization can go too far.'³⁰⁸

The core idea being that if potential gridlock situations are identified early, the law can be "tweaked" before the rights become entrenched. Presumably this would involve restricting the minimum ownership size, as opposed to the restricting who can own the property, but no details are provided as to what form this "tweaking" should take.³⁰⁹

The ex post form of Heller's solution applies to situations where overly fragmented ownership structures have already created gridlock. In this situation Heller's makes two recommendations, one voluntary and the other mandatory. The voluntary solution involves the creation of "assemble tools" which "make it easier to put rights together"³¹⁰. As examples of this solution Heller points to oil-field unitization and condominium agreements.³¹¹ The assumption being that these assemble tools will allow for the voluntary assembly of the fragmented ownership structure by the owners. The mandatory solution recommended by Heller involves "wiping out existing rights and starting over".³¹² The implication of this recommendation is that he believes that the government should be able to confiscate and reassign title to property, in

³⁰⁶ For example, when a square peg will not fit in round hole, and the problem is defined as the square peg, then the solution is to make the peg round. Alternatively, if the problem is defined as the round hole, making the hole square would be the solution. This analogy vividly illustrates the how Heller's definition of the problem is reflected in his proposed solution.

³⁰⁷ *Id.* 188

³⁰⁸ *Id.* 189

³⁰⁹ Actually, there may be little difference between these two restrictions, as restricting minimum size will effectively eliminate less affluent potential owners.

³¹⁰ *Id.* 193

³¹¹ *Id.* 194

³¹² *Id.* 195

order to eliminate a tragedy of the anti-commons. A proposal which he more specifically articulates in the following statement;

'Faced with intractable gridlock, we should be able to condemn rights, pay just compensation, assemble the resource, and move it to the higher value use.'³¹³

Heller identifies two examples of laws which represent this confiscation solution, "eminent domain" and "march-in rights". Eminent domain describing a process whereby the government forces the sale a property because its development is essential to the advancement of some public good. March on rights being a specific legal remedy included in the Bayh–Dole Act³¹⁴ which allows the Government to breach the exclusivity of government institutional licensing agreements if the licensee is in breach of one of four criteria.³¹⁵

In addition to these two-principle recommendation Heller does include alternative and non-traditional solutions. The first of these involves shaming the misbehaving party into a more reasonable behaviour.³¹⁶ The next involves entering into voluntary arrangements like patent pool.³¹⁷ Lastly Heller suggests that philanthropy can be used as a solution.³¹⁸

It should be noted that each of these proposed solutions in some way or another is designed to reduce the fragmented nature of the ownership structure. This is hardly surprising given Heller's definition of the problem as resulting from excessive fragmentation. However, it is rather disappointing, because it indicates that Heller does not appreciate the evolutionary nature of property ownership from a *private privilege to a universal right*. Further he appears to be reluctant to break away from the neo-classical ideology which insists on Blackstone's definition of property as "that sole and despotic dominion ...over the external things in the world, in total exclusion of the rights of any other individual in the universe". To better understand the full extent of this misconception only requires that those same ideas be observed using a broader perspective.

Taking the broadest possible prospective a "tragedy of the anti-commons" represents little more than an economic description of an unresolved property dispute which prevents the property from being fully used. So, although the focus of the anti-commons tragedy is on smaller highly fragmented properties, it could just as easily be applied to much larger properties. For example; most of the wars fought for European domination could be considered tragedies of the anti-common, as they involved intractable property disputes which resulted in the destruction or underuse of property. If these wars were considered tragedies of the anti-common, then theoretically Heller's solution would be to unify to property under a single owner.

While it is undoubtedly true that if one Monarch had uncontested ownership of all of Europe, much of the property destruction would have been avoided, it is highly unlikely that any modern economist would recommend such a solution. There are at least two reasons why such a solution would not be recommended. First it would violate the social and economic ideal of universal property rights, which are the fundamental to western democracy and the capitalist market.

³¹³ *Id.* 192

³¹⁴ Patent and Trademark Law Amendments Act 96-517, December 12, 1980

³¹⁵Curiously while "eminent domain" does indeed require just compensation, it is not clear whether any compensation needs to be provided under "march in rights".

³¹⁶ *Id.* 195

³¹⁷ *Id.* 196

³¹⁸ *Id.* 197

Second it could never result in optimal economic efficiency as it would put the decision-making power on how to use the property into too few hands.³¹⁹ The point of this extrapolation is that although unification of a property may eliminate gridlock, it does not necessarily mean that it is the solution which should be adopted, and it should not be adopted if it both violates the ideal of universal property rights and results in suboptimal level of efficiency.

With respect to the evolution of property rights. The vast majority of societies quite some time ago adopted universal property rights, a policy which provides everyone with the right to own property. If governments put in place policies which limit the minimum size of properties, this will have the de facto effect of increasing property prices and thereby of reducing the ability of less affluent members to buy property. At the very least they could not afford to buy the larger unified properties on their own. So, while such a policy may solve the tragedy of anti-commons, it would increase the social divide and make a mockery of the ideal of universal property rights. A case of the cure being worse than the disease.

This can be more fully appreciated by considering the implications that a unified property policy would have in the field of intellectual property. This disastrous effect would occur because it would disenfranchise and otherwise eliminate the incentive to innovate for vast majority of innovators. As mentioned earlier, it must be recognised that most modern technology is not the sole creation of a single entity but rather an aggregation of the best innovations created by a multitude of entities. As such if there was a policy that limited the intellectual property ownership in a given technology to one entity, this would require the disenfranchise of all other innovators working in the technological field. While some of those disenfranchised innovators may find work in the entity which has been granted the sole ownership, many will not and their creative contribution to the field will be lost. Furthermore, even those who were fortunate enough to find work, may not find it as rewarding as working independently and so be less creative. All in all, this loss of creative will almost certainly overwhelm the gains that will be made by avoiding the gridlock. Not to mention the fact that such a policy would also dramatically increase the cost of owning intellectual property, which would reduce the ability of less affluent members of society to own the property. A more tangible method of conceptualising the magnitude of this potential disaster would be to imagine what the internet would look like today if IBM had been granted sole ownership of computing technology.

Given the significance of universal property rights in these matters, a clear definition appears appropriate. In this thesis universal property rights will be defined as meaning;

*'those rights which guarantee everyone has an equal right to own property and that similar properties will be provide with the same rights.'*³²⁰

This is quite a different from neoclassical version of property rights which supposedly grants owners with; "sole and despotic dominion ...in total exclusion of the rights of any other individual in the universe". In fact, these differences are so great it renders these two versions of property rights rather incompatible. An incompatibility which is easily illustrated with a single case. In 1916 The Court of Appeals of Kentucky up held the following ordinance;

³¹⁹ Regardless of how many subordinates were delegated with the task of managing the property, they could never make as good a set of decisions as a broad-based group of individual property owners. The closest example we have of this inefficiency is the Soviet Union which collapsed because of its economic inefficiencies.

³²⁰ Author's definition

“An ordinance to prevent conflict and ill-feeling between the white and colored races in the city of Louisville, and to preserve the public peace and promote the general welfare, by making reasonable provisions requiring, as far as practicable, the use of separate blocks, for residences, places of abode, and places of assembly by white and colored people respectively.”³²¹

By the first section of the ordinance it is made unlawful for any colored person to move into and occupy as a residence, place of abode, or to establish and maintain as a place of public assembly any house upon any block upon which a greater number of houses are occupied as residences, places of abode, or places of public assembly by white people than are occupied as residences, places of abode, or places of public assembly by colored people.³²²

The ordinance can be viewed as evidence that “white” property owners believed their property rights were so absolute, that they can use those rights to protect their property from damage that would be brought as a result of “colored” people being allowed to move into their neighbourhoods. That the ordinance also prohibited “white” people from moving into “colored” neighbourhoods does not make this ordinance compatible with universal property rights, because it only treats people equally by depriving both “colored” and “whites” of their universal rights. Ironically this ordinance was struck down by the U.S. Supreme Court *not* because it prevented “colored” people from buying property, but because it violated a “white” owners constitutional right to dispose of his property to a “colored” buyer.³²³ Despite the origins of the Court’s decision to hear the case, the decision itself was a clear declaration that the property rights provided for under the United States Constitution were universal and must be applied equally to all people;

‘The Fourteenth Amendment made all persons born or naturalized in the United States, citizens of the United States and of the states in which they reside, and provided that no state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, and that no state shall deprive any person of life, liberty, or property without due process of law, nor deny to any person the equal protection of the laws’³²⁴ and ‘We think this attempt to prevent the alienation of the property in question to a person of color was not a legitimate exercise of the police power of the state, and is in direct violation of the fundamental law enacted in the Fourteenth Amendment of the Constitution preventing state interference with property rights except by due process of law. That being the case, the ordinance cannot stand.’³²⁵

Conveniently in this case the Court also mentioned another inconsistency between neo-classical and universal property rights when it refers to the ability of police powers to limit absolute rights.

³²¹ Court of Appeals of Kentucky, 165 Ky. 559, 177 S. W. 472, Ann. Cas. 1917 p149

³²² *Id.*

³²³ *BUCHANAN v. WARLEY*, 245 U.S. 60 (1917)

³²⁴ *Id.* 245 U.S. 60, 76-77

³²⁵ *Id.* 245 U.S. 60, 83

“True it is that dominion over property springing from ownership is not absolute and unqualified. The disposition and use of property may be controlled in the exercise of the police power in the interest of the public health, convenience, or welfare. Harmful occupations may be controlled and regulated. Legitimate business may also be regulated in the interest of the public. Certain uses of property may be confined to portions of the municipality other than the resident district, such as livery stables, brickyards and the like, because of the impairment of the health and comfort of the occupants of neighbouring property. Many illustrations might be given from the decisions of this court, and other courts, of this principle”³²⁶

This is a clear statement from the Supreme Court’s which has determined that property rights, while universal, are not absolute and the that government can restrict those rights if it is in the public interest. This case illustrates why Heller recommendation is so surprising. By recommending using the state police power to unify fragmented property, he is effectively supporting the notion that the ownership of potentially anti-common property; be terminated for small property owners and transferred to those that can afford the unified property. This elimination of small property owners not only would be a direct breach of universal property rights it also ignores the potential to limit property rights for the public good.

A related aspect of the tragedy of the anti-commons which also appears to have been overlooked, is the possibility that a fragmented property structure might provide the most efficient outcome. Just as a single Monarch owning all the land in Europe is less efficient than a Europe owned by a fragmented multitude of diverse land owners, a single company owning all the intellectual property technology related to modern industry would almost certainly be less efficient than a multitude of innovators providing and owning the technology. Certainly, from an origination prospective it is hard to imagine that one entity would have the same creativity as hundreds, if not thousands, of independent inventors.

Ironically the criticism of centralized ownership can is drawn directly from the neo-classical economic theory which was used to condemn communism. According to economists like Friedrich Hayek and Milton Friedman; communism was always going to be less efficient than capitalism, because capitalism allowed for multitude of independent decision makers to develop goods for the market.³²⁷ This criticism however apparently disappears when it is a single capitalist rather than a single communist that is making the decisions.

While the incoherence of this logic is apparent, its origins are less obvious. Indications are that it most likely results; not from a faith in capitalism, but rather from a contempt for government. A contempt so great that it prevents neo-classical proponents from taking a position that would recommend government regulations.³²⁸ This ideological belief being driven by the undeniable fact that unrestrained government regulations can become so oppressive, they strangle economic activities that they are intended to promote. The fatal flaw of neo-classical supporters is they have become so preoccupied by detrimental government regulations, that they have become loath to acknowledge, let alone endorse a regulation which

³²⁶ *Id.* 245 U.S. 60, 75-76

³²⁷ Hayek, *Road to Serfdom*, (1944), Milton Friedman; *Capitalism and Freedom*, 1962 (University of Chicago Press)

³²⁸ Milton Friedman *An Economist’s Protest* [1975] “I think the government solution to a problem is usually as bad as the problem and very often makes the problem worse.” p6

might be beneficial. A position which is undermined by everyday evidence that some regulatory limitations are both necessary and beneficial.³²⁹

In Heller's case that flaw is evident; not just because he does not recommend government involvement to limit property rights, nor because he recommends the defragmentation of properties, but because he recommends confiscating property to create a monopoly rather than allowing the government to limit property rights. By making this recommendation he is effectively acknowledging that he considers that the known market failures of a monopoly, to be preferable to the supposedly dire consequence which would follow if a government limited property rights. Ignoring the irony of having the government interfere by confiscation property, the assumption that a monopoly is better than promoting property ownership; would appear to be a tragedy in and of itself.

Of course, it may be that Heller only intentioned that limits on minimum property size be imposed in case where gridlock has become intractable or is expected to become intractable. Although this would certainly limit the damage of such a policy, it raises more questions than it solves. For example, what is the criteria that defines intractable gridlock or likely intractable gridlock? Is it only when there is evidence of a total collapse or an impending total collapse or is it enough that there is evidence of under use? If underuse is the criteria what level of underuse would be the threshold? Who decides when circumstances meet that criteria? Even if an intractable gridlock is undeniably, how does one identify which of the fragmented owners will be granted sole ownership of the property and who will be disenfranchised? Who will decide who gets ownership and who is disenfranchised? Will the disenfranchised owners receive compensation for their property? If so how much and again who gets to decide? The list of potential questions goes on and in reality, there is no way to answer these questions in a manner that would satisfy all owners.

Fortuitously it turns out that economists do not have to spent must time debating the right answer to these difficult questions as there exists a tried and tested alternative solution to the tragedy of the anti-commons which does not involve confiscating property and giving it to a monopolist.

This solution involves redefining the problem from one focusing on the fragmented nature of the property, to the one focusing on addressing the antiquated, economic, legal, and social policies of absolute property rights. If this were to happen there is every expectation that the "tragedy of the anti-commons" would be replaced by a "triumph of the anti-common".

5.2.4 The Triumph of the Anti-Commons

As discussed in the criticism of Heller's solution to the anti-commons tragedy, it appears both ironic and illogical to suggest that it would be reasonable for governments to use their police powers to confiscate property from small properties owners in order to create a monopoly of larger owners, while at the same time being unwilling to allow them to use those same powers to merely limit the ownership rights of inherently integrated property owners. This irony becomes even more pronounced when it is evident that some of the historical examples

³²⁹ They are necessary because they regularly prevent damages which would otherwise occur. They can be beneficial because they facilitate the development of markets. An illustrative example of the former would be limitations which prevent firework factories being constructed in residential neighbourhoods. An easily comprehensible example of the latter would be limitations which prevent unstamped gold jewellery from being sold and instead requires the it be stamped with quality marks which provide information on the gold content.

provided by Heller were in fact solved by pursuing limitations in property rights, and not by creating a monopoly ownership situation. This irony is further compounded by the fact that such limitations were facilitated through the simple application of an existing legal doctrine, rather than a regulatory change which would be difficult to achieve. That doctrine is called the correlative rights doctrine, which was defined in the introduction as follows;

*'When multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the value of that property and the law should protect that share from being appropriated by others, including other owners.'*³³⁰

The proposition that a limiting ownership rights by apply the correlated doctrine is better than a solution than a monopoly rests on three premises.

- Firstly; because achieving a monopoly is usually going to involve conflicts which will result in the destruction of property.
- Secondly; because destruction can be avoided through the implementation of appropriate regulations; which is to say that the conflicting interest of the fragmented owners can be resolved by limiting property rights.
- Third; because there are inherent benefits to having fragmented property ownership which are lost under a unified property regime. The primary benefit which can be expected to accrue from a fragmented property structure is an increase in innovations which is derived from an increase in the diversity of decision making and the therefore the creation of a more vibrant industry.³³¹

All of these premises certainly apply to the European wars mentioned earlier. The destructiveness of the wars is obvious. The peace treaties that prevented the wars would seem like agreements which limited property rights and notion that expanding the ranks of property ownership generates economic benefits would appear to be historically self-evident. A good example of this would be the resolution of Hundred Years war between England and France. Under the Treaty of Picquigny³³² the two Monarchs agreed to a seven-year truce, a mutual defence pack and free-trade between the two countries. In addition to these and certain other financial terms they also organised a committee which would meet annually to resolve future disputes through binding arbitrations. While the terms to the treaty favoured England, it clearly ensconced into the field of international relations, the concept of correlative rights. This concept basically required that the both English and French Monarchy avoid engaging in actions which were harmful to the other or to their dominion. Whilst this treaty was still far from ideal, (mainly because it perpetuated the quasi exclusive rule of the monarchy), it does provide a very salient lesson as to the explanation of the differences between absolute and correlative rights. Under absolute rights peace and prosperity is only achieved if the one side is able to conquer and

³³⁰ Note 9

³³¹ Although in the short term it is entirely possible for a monopolist to be more innovative than a multitude of competitors, history show that as monopolist become more secure in their monopoly their innovativeness tends to diminish.

³³² Treaty of Picquigny [1475]

eliminate the rights of the others. Whereas with correlative rights peace and prosperity can be achieved by the simple act of respecting the rights of others.

This lesson is as valid today as it was 600 years ago. The big difference is that because of the evolution towards universal property rights, which mean there are now millions of property owners, it is no longer possible to protect correlated rights through bilateral or even multilateral agreements. What is required is an application of the correlated rights doctrine which codifies those rights in a way that can be relied upon by all property owners. In its simplest form the doctrine provides property owners with a proportionate share of the rewards from an inherently integrated property and ensure that no property owner uses his property to harm the property of others.

For examples of how a correlated rights doctrine would resolve disputes it seems logical to return to the tragedies of the anti-commons identified by Heller;

- **Middle Age Rhine River Traffic-** Applying the correlative rights doctrine in this situation would involve first determining what aggregate rate which would provide the greatest return from river tolls and then dividing that rate by some measure of total boat distance travelled thereby deriving a metric of what a reasonable rate would be for boat activity on a Barron's particular section of the river. If any Barron charged more than that rate they would be breaching their correlative rights doctrine as they would be taking more than their fair share of the aggregate revenue. Curiously something like this was done to solve this Middle Age gridlock. History shows that that once the central authority was restored, unauthorized tolls were eliminated, and authorized tolls were limited. These centrally imposed controls can be considered to represent a profit maximising solution that provided enough revenue to maintain the fidelity of the most important Barons, while at the same time being low enough to allow for the resumption of profitable river traffic. Further given that the river boat captains would undoubtedly complain about any excessive tolls payments it is likely that the authorized tolls were all kept at about the same level. If they were not, this would have offended the Barons who received lower tolls and thus created undue resentment towards the monarchy. To the extent these similar sized tolls represented a proportional share in the profit maximising revenue they can be considered a correlated solution.
- **The Irish Potato Famine-** Although the Irish potato famine shouldn't really be considered a tragedy of the anti-common, applying the correlative rights doctrine to this unbridled greed tragedy would mean that the rights of the landowner to the crops should be correlated with the rights of the tenant farmers to a fair return on their labour. Any just assessment of this correlation would surely require that the landlord share enough of the crops with the tenant farmers to keep them from starving. An assessment that the rest of the European landlords accepted, but the Irish absentee landlords rejected.
- **Urban Development-** In urban development cases the dispute is usually portrayed as a dispute over two mutually exclusive uses of a property. While the correlative rights doctrine is not designed to arbitrate between two mutually exclusive uses, it can provide an indication of the highest proportional return to the property owners from those uses. This may be enough to solve the dispute, as it may be that disproportionate

sharing of rewards is what is really driving the dispute. This would likely be the case in situations where a new use is being proposed, which has a much higher value and the owners are being offered a value based on the old use. If the owners are offered their proportionate share of the value of the new use the dispute may not even arise. Simple appropriating the property from the owners at the old use value and giving it to a new owner at that value would appear to be an unjust redistribution of property. Only if the offer to owners is at the higher new use value and they still do not want to sell, should an eminent domain be considered.³³³

- **Public Infrastructure Development-** Public infrastructure developments are different from private urban development as rather than transferring the property to another private, owner the property is being procured for public use. The value of that public use is however very hard to determine, which is why most public eminent domain purchases are done at the current use valuation. The correlative property rights doctrine can add little to this process as it can't compare the value generated between the two uses.

- **U.S Airplane Manufacturing-**The correlative rights doctrine would solve this problem by determining what would be the profit maximising aggregated rate which could be charged for the aviation intellectual property and then provide some guidance as to the proportionate share that should be allocated to each patent. Patent owners which wanted to charge more than the proportionate share would have to justify the excess in by indicating why their intellectual property was more valuable than the intellectual property of others. The case referred to by Heller is complicate by the fact the aircraft were needed to fight in the First World War. Because airplanes were so essential to the war effort, this dramatically increased their value and would have facilitated significant war profiteering on the part of the patent owners. If war profiteering was not the objective of Wright-Martin when they sent out letters informing airplane manufacturing companies that they would be seeking 5% royalties for the use of their one patent, it would have certainly been the result. It should be noted that if the same rate were to be applied to the other 60 aviation patents that were outstanding at the time, this would have aggregated into a rate equal to 300% of the value of an airplane. This dispute therefore had more to do with patent hold-up than gridlock.

That said according to Heller this gridlock was solved by through the creation of government mandated compulsory patent pool, which was to be owned and controlled by the newly created Manufacturers Aircraft Association (MAA). For him it was the unification of all the relevant intellectual properties under one body which could license all the relevant intellectual property to aircraft manufactures that unlocked the gridlock and enable the U.S. manufacturers to take their rightful place at

³³³ As an aside one way of ensuring a fair valuation under an eminent domain would be to establish as rule that a developer could only seek an eminent domain action after they had offered their property for sale at the price that they want to pay for the property owned by others. The logic of such a prerequisite is as follows; if a developer has come up with the most efficient use for a jointly property, the proportional value that is attributable to the individual owners should be greater than that provided under any other use. Assuming that is the case when developer offers to sell their interests in the property for that value, no one will buy it because there is no way of creating greater value. However, if another party is willing to buy their property interests than clearly the developer plan does not create the greatest value rendering the eminent domain action either unjust or inefficient.

the forefront of the aviation industry. This description has been disputed in a paper which argues that there was no gridlock and that the only issue at dispute was the level of royalties the Government was going to have to pay on airplanes which were needed for the impending war.³³⁴ While this new paper provides a compelling argument as to the lack of a gridlock, it does not provide as compelling an argument on the lack of a hold-up.

Regardless of whether it was gridlock or a holdup the correlative rights doctrine could have solved either by mandating that aircraft patent holders not charge more for the use of their intellectual property than the correlated value they provide to an airplane. Such a rule may have avoided the transfer of patents to the MAA, but it would have ensured that later follow on patent would also be proportionately rewarded.³³⁵

- **Drug Development Tools**- Just as with any other intellectual property dispute the correlative right doctrine can solve the gridlock by first determining the aggregated profit maximising value of the combined testing tools and providing an indication of how that aggregate should be proportionality distributed. If tool owners wanted to charge a higher licensing fee they would have to justify it by showing their particular property added more value than the others.
- **Oil Drilling Prohibitions**-Whilst oil drilling prohibitions would appear to represent a dispute between two mutually exclusive uses, something which the correlative rights doctrine is not designed to solve, the fact is that the doctrine has been used to solve oil drilling disputes for more than a century. Its use is possible because oil reservoirs are usually large enough to facilitate extraction access over a large area. As such drilling can sometimes be accommodated in less intrusive locations, far away from areas where they conflict with the other uses. When this is possible the correlative rights doctrine provides that the property owner who was prevented from drilling into the reservoir, still receives a proportional share of the oil revenues from oil that was extracted from the reservoir in other locations.³³⁶

As can be seen from these examples the correlative rights doctrine can solve almost every perceived tragedy of the anti-commons. However, solving a tragedy is not what changes a tragedy into a triumph. Correlative rights change a tragedy into a triumph because it ensures maximum value through encouraging higher ownership rates, while at the same time providing a fair share of that value to all property owners.

Higher ownership participation rates are beneficial from both an abstract and practical perspective. From an abstract perspective the mere fact that more people are able to own property is in and of itself a benefit, as this increases their sense of self-worth.³³⁷ A concept which is clearly conveyed in the moral right justification for copyright law. This justification focuses on the personal and reputational elements of the work, rather than merely its monetary

³³⁴ Dr. Ron D. Katznelson, Dr. John Howells; *The Myth of the Early Aviation Patent Hold-Up-How a U.S. Government Monopsony Commandeered Pioneer Airplane Patents*. [2013]

³³⁵ See Chapter 7 for a detailed analysis of the evolution of property rights in the aviation industry.

³³⁶ See Chapter 6 for a detailed analysis of correlated oil and gas rights

³³⁷ Alexander, Gregory S., *Property as a Fundamental Constitutional Right? The German Example* (2003). Cornell Law Faculty Working Papers. Paper 4. "It [Germany] strongly protects a particular property interest only to the extent that the interest immediately serves other, primary constitutional values, in particular, human dignity and self-governance" p 8

value. From a practical prospective the most obvious benefit is that when more people have ownership interest in a property there will be more brain power focused on how best to use and develop the property. These increased ownership levels will also obviously increase the level of competition between the property owners. The most tangible effect of this increase competition can be found in the field of intellectual property where the creative race to develop new intellectual properties clearly benefits from an increase in the number of participants engaged in that race.

The proportional rewards requirements also have both abstract and practical benefits. From an abstract prospective, the proportional distribution of rewards certainly conforms the fundamental ideas of fairness and lends credibility to the presumption that legal system ought to be just. It also aids in the development of self-worth, in that it avoids the demeaning prospect of owning property where the rewards are appropriated by another.

From a practical prospective the first benefit of proportionality is that encourages cooperation between property owners because they do not have to fear that their contributions will be appropriated by those that they are cooperating with. The second advantage of proportionality is that it encourages innovative competition particularly in the field of intellectual property because new innovations will also receive their proportionate reward.³³⁸ Finally proportionality requirements will almost inevitably reduce litigation levels. The first way that it will reduce litigation is that it will force both owners and implementers to adopt more reasonable expectation as to intellectual property values which will make voluntarily negotiated agreements more likely. The second way it reduces litigation is that it could allow the courts to punish parties that come to court with totally disproportional expectation. Such punishment sending a message to potential litigants that unreasonable licensing demands which either excessively overvalue or undervalue the intellectual property are counterproductive.

All of which makes it a far better solution than confiscating property and providing that property to a monopolist. Given these potential benefits it could justifiably be asserted that not only does applying the correlative rights doctrine solve the tragedy of the anti-commons, it changes it into a *“Triumph of the Anti-Commons.”*

³³⁸ Something which is often lacking in non-proportional licensing arrangement where it is generally expected that the prorated rate of innovation will remain the same, if it is addressed at all.

6. A History of the Correlated Rights Doctrine

'common law by its own principles adapts itself to varying conditions, and modifies its own rules so as to serve the ends of justice under the different circumstances, a principle adopted into our code by section 3510 of the Civil Code: "When the reason of a rule ceases, so should the rule itself." This is well stated in *Morgan v. King*, 30 Barb. 16: "We are not bound to follow the letter of the common law, forgetful of its spirit; its rule instead of its principle."³³⁹

This quote is provided at the beginning of this chapter for two reasons. The first reason is because it provides a succinct explanation of how and why common law should evolve when faced with changes which occur in a society. The second, because it is drawn from what was the first case to articulated and defined the correlated rights doctrine in any body of law. While the two bodies of law discussed below may not be the first to use the practice of providing owners of integrated properties with a proportionate share of the rewards from that property, they were the first to adopt a formal doctrine which require that the courts to recognise and formalise that practice.

Although it may have been sufficient to simply identify how the correlative rights is used in both water law and oil and gas law, this chapter also provides information on the evolution of those respective laws. This enhanced analysis is provided to highlight the similarities between the way that those bodies of laws changed their understanding of their underlying subject and how intellectual property law is changing in the same manner. Another reason for providing the details behind the evolution of these laws is because it provides an illustration of how current problems in intellectual property are not that much different from those which were experienced in other industries, thereby providing a tangible example of how the correlative rights doctrine can be used to better resolve intellectual property disputes. Finally, these histories are provided simply because it may encourage material comparison not include in this discussion by others.

6.1 The Evolution of Correlated Water Rights

In many ways water law followed the same evolutionary path that can be observed with all property rights. Beginning with a common ownership phase, followed by a concentrated ownership phase, finally moving to a universal ownership phase. Significantly each of these phases is distinguishable by the application of different legal doctrines, which reflected the rights provided under each phase. First there was the riparian doctrine which viewed water as a common resource and required that land owners avoid using the water which passed through their property in a way which would harm downstream land owners. Then there were the absolute and prior appropriation doctrines which established a landowner's absolute right to water, which later evolved into an absolute right for those who first used the water. Under both

³³⁹ *Katz v. Walkinshaw*, 141 Cal. 116 (Cal. 1903)

these later doctrines owners were effectively able to disregard any effect that their use may have had on others who also wanted to use the water. Finally, there was the correlative rights doctrine which established a joint right to water based upon proportional land ownership. This final doctrine was meant to ensure that no owner appropriated more than their fair share of the water resource from other land owners.

While a comprehensive description of the evolution of water law would necessitate describing the development under Roman law and the changes which occurred in the United Kingdom,³⁴⁰ this section will omit that long-term evolution and instead focus on the much quicker evolution of water law in the State of California.³⁴¹ This can be done because although Californian water law evolved somewhat differently and in a more compressed timeframe, its evolution included the application of all the doctrines included in the long-term evolution. It will be done because the more modern Californian case law provides a clearer and more direct comparison with the evolution of modern intellectual property law. A comparison will reveal remarkable parallels between the two bodies of law, which can be directly attributed the similar nature of the underlying properties and corresponding searches for equitable and efficient solutions.

To begin this analysis, it should be noted that American water law evolved from an initial application of either riparian and prior appropriation doctrines. Whereas in the Eastern States they tended to favour riparian rights, in the Western States they tended to rely on prior appropriation as the guiding principles for developing water law. In eight states; Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona and New Mexico, they had only appropriative rights whereas the nine other western states, Washington, Oregon, California, North Dakota, Nebraska, Kansas, Texas and Oklahoma have had a “mixed” system of riparian rights and appropriative rights. These doctrinal differences can be attributed to the differences in water use in the various States. Whereas in the riparian States water was initially used mainly for agricultural purposes, in appropriative States water was initially used primarily used for mining purposes and in the mixed States the water use was initially divided. California’s statutes as mixed state and its subsequent development and application of the correlated rights doctrine can be easily understood when put in the context of its historical development and reviewing the case law associated with that development.

6.1.1 Prior Appropriation Rights

California was ceded to the United States by the Treaty of Guadalupe Hidalgo which ended the war between the two countries in 1848. Apart from some private land rights granted by the former Spanish and Mexican Governments the entire area became public property of United States. This happened at the same time that word began to spread about the discovery of gold in Sierra Nevada, which precipitated one of the biggest gold rushes in history. During the influx of gold miners, the inhabitants adopted a Constitution in preparation for their admission in to the Union which took place in 1850. Among the first acts of the legislature was the declaration that the common law of England would be applied by the court if it was in harmony with the

³⁴⁰ For a comprehensive description of the evolution of water law see: Anthony Scott, Georgina Coustalin, *The Evolution of Water Rights* Natural Resources Journal, Vol. 35 (University of New Mexico School of Law, 1995)

³⁴¹ For a comprehensive description of the evolution of Californian water law see: Slater, *California Water Law and Policy* (1995); 62 Cal.Jur.3d, Water; Attwater and Markle, *Overview of California Water Rights and Water Quality Law* (1988)

federal constitution and laws and constitution of the state. This meant that there would be three doctrines applied to water rights: pueblo, riparian and prior appropriation.³⁴²

While the English common law focused on riparian rights, it initially had little application in the state, as most of the early water use was for mining purposes. Specifically, the miner used the water to wash the gold out of the gravel in slosh boxes. When the mines were not located on a river they would build trenches and aqueducts to take it to their mining sites. Not only were these uses not a customary use for riparian rights; because the miners were trespassers on public property and not property owners, they could have no riparian rights. Absent riparian rights, and indeed any legal structure for the use of water, the miners adopted their own customs for regulating water use. This custom allowed miners to continue to use any water that they needed and could acquire, so long as they continued their mining activities. As this custom was equivalent to the prior appropriation doctrine in England, the state Legislature in 1851, decreed that the "customs, usage, or regulations" established by the miners could be used to govern disputes between them, thus officially accepting the appropriation principle.³⁴³ This was followed by the Mining Act of 1866 whereby the Californian Congress recognized the miners' appropriative rights acquired under local custom by virtue of their diversion and use of water, rights which were which was codified in 1872 when provisions were added to the Civil Code creating a statutory procedure for securing appropriative water rights.³⁴⁴ A classic example of prior appropriation in US water law would be the 1855 case of *Irwin v. Phillips*.³⁴⁵

According to the facts of that case, Phillips owned a canal that took water to his mining site which was some distance from stream. Sometime later Irwin sought to set up a mining operation which was hindered due to a lack of water, as it was downstream from where Phillips sourced his water. Irwin appealed to the California Supreme Court to enforce riparian water rights as his claim was beside the stream and he felt that riparian rights ought to protect the natural flow of water. Although the court decided that riparian rights could not exist because Irwin did not own the land on which he was mining, they also recognised the importance of the mining industry, and the need to protect the investments that the industry had made in essential water infrastructure:

'a system has been permitted to grow up by the voluntary action and assent of the population, whose free and unrestrained occupation of the mineral region has been tacitly assented to by the one government, and heartily encouraged by the expressed legislative policy of the other. ... Among these the most important are the rights of miners to be protected in the possession of their selected localities, and the rights of those who, by prior appropriation, have taken the waters from their natural beds, and by costly artificial works have conducted them for miles over mountains and ravines, to supply the necessities of gold diggers, and without which the most important interests of the mineral region would remain without development.'³⁴⁶

³⁴² Although because the pueblos rights applied only to the Spanish and Mexican pueblos which represented a tiny percentage of the state, in reality there were only two applicable doctrines.

³⁴³ Code Civ. Proc., § 748

³⁴⁴ Civ. Code, §§ 1410a-1422

³⁴⁵ *Matthew W. Irwin v. Robert Phillips*, 5 Cal. 140 (1855).

³⁴⁶ *Id.*

Using this justification, the final ruling stated that:

'The miner, who selects a piece of ground to work, must take it as he finds it, subject to prior rights, which have an equal equity, on account of an equal recognition from the sovereign power. If it is upon a stream the waters of which have not been taken from their bed, they cannot be taken to his prejudice; but if they have been already diverted, and for as high, and legitimate a purpose as the one he seeks to accomplish, he has no right to complain, no right to interfere with the prior occupation of his neighbor, and must abide the disadvantages of his own selection.'³⁴⁷

6.1.2 Riparian Rights

While *Irwin v. Phillips* rejected the riparian rights of the plaintiff it clearly foretold the potential for conflict between appropriative and riparian rights. This potential for conflict became much more likely three years later with the passage of the Homestead Act of 1862, which opened up public land to private ownership. Under Common law private ownership would endow those private land owners with riparian rights. To alleviate the potential for conflict, in 1870 a supplementary act was passed which provided that all Homesteads, as well as all patents granted for public land, would be subject to the appropriative rights included in the Mining Act of 1866. This provided the early appropriators of water with vested water rights which were senior to all riparian rights, including the state's own riparian water rights.

This however did not end the conflicts; as water appropriation which occurred prior to a transfer to private ownership were clearly granted a superior right, appropriations after such transfers did not. Which is to say that any homestead could claim that their riparian rights provided them with protection against any appropriation which occurred after ownership of the property was transferred to them. This protection being recognised in the 1886 Supreme Court decision of *Lux v. Haggin*.³⁴⁸

In that case *Lux* (the plaintiff) was seeking an injunction which would prohibit *Haggin* (the defendant), from taking upstream of water from the Kern river for irrigation that they needed for their downstream cattle business. The plaintiffs invoked the doctrine of riparian rights in support of their request for this injunction. In a lower court it was ruled that neither of them were riparian owners as the plaintiff's property bordered a slough which did not have a defined course of water and the defendant was using water on property which was not adjacent to the river. Given lack of riparian rights, the lower court denied the injunction based on the defendant's appropriative rights. The plaintiffs appealed to the Californian Supreme Court, which was accepted as they felt that there were facts to be determined by a new trial. The most significant fact being a recognition that the water on the plaintiff's property flowed through it, and thus had to be considered a waterway; which meant the plaintiff did have riparian rights. The question then became whose rights should have priority, the plaintiff's riparian rights or the defendant's appropriative rights.

In an opinion occupying nearly two hundred pages the court held that the doctrine of riparian rights had been adopted in 1850 with the common law and still prevailed. It further decided that riparian rights which attached to riparian land, was superior to the rights of all other

³⁴⁷ *Id.*

³⁴⁸ *Lux v. Haggin* (1886) 69 Cal. 255 [10 P. 674].)

appropriators, except those who had made an appropriation prior to it becoming private property. Justice Sharpstein explaining this decision by juxtaposed the doctrines of riparian rights and appropriation rights as follows:

'Both, the State and the United States governments have granted to private persons and corporations large tracts of land which have remained unoccupied and in their virgin state for many years afterwards. It probably never occurred to any one that the owners, by neglecting to appropriate the grasses and trees naturally growing on such lands to some useful purpose, left them open and subject to a rightful appropriation by someone else. And yet we have the same authority for holding that a simple grant of land conveys a right to have the water flowing over it continue so to flow, as we have for holding that it conveys a right to the trees and grasses growing on it, or to the sun itself. The principle that he who first appropriates property to a useful purpose is best entitled to it, applies only to cases in which none of the parties has a grant, actual or presumptive.'³⁴⁹

In the same decision the court explain why appropriation was valid for some parts of the state and not for others:

'In *Hill vs. Smith* (27 Cal., 476), it is explicitly denied that the rules of the common law touching water rights have been materially modified in this State, although in that case it is said that these rules do not apply to sections of the State in which water is exclusively used for mining purposes. But this was said in a case in which neither of the parties owned any land over which a natural stream of water flowed. The respective rights of prior and subsequent appropriators were alone involved. It is claimed that the same reason exists for not applying the common law doctrine of riparian rights to the agricultural, as is given for not applying to the mining regions of the State because water is as essential to the prosecution of the one industry as of the other in this State.

But in *Hill vs. Smith*, the Court says: "When the law declares that a riparian proprietor is entitled to have the water of a stream flow in its natural channel -*ubi currere solebat*- without diminution or alteration, it does so because its flow imparts fertility to his land, and because water in its pure state is indispensable for domestic uses. But this rule is not applicable to miners and ditch owners, simply because the conditions upon which it is founded do not exist in their case." The conditions upon which it is said the rule is founded, do exist in agricultural districts. And it is the rule applicable to those districts which concerns us in this case. And after carefully examining all the cases bearing on this question, we are unable to find one in which it is held or even suggested that outside of the mining districts the common law doctrine of riparian rights does not apply with the same force and effect in this State as elsewhere.'³⁵⁰

California therefore had adopted a dual system of water rights. One which attached riparian rights to land as soon as it became private property and provided appropriation rights to when

³⁴⁹ *Id.*

³⁵⁰ *Id.*

water was appropriate for other uses. The superiority of these rights being determined by the date that they were acquired. While this would appear to put these rights on equal footing, there was one major difference which gave riparian rights owners an advantage over appropriation rights owners. That advantage had to do with the limitation on the quantity and use of water. Whereas appropriated water was subject to strict controls on volume and defined uses, riparian land owners had no such restriction. The only restrictions which they faced were the requirement to use the water on their property, and to ensure that other downstream riparian owners were not harmed by that use. These riparian rights not only included current use, they could also include the right to future use. What this meant was the after riparian rights were granted, it was extremely difficult to get subsequent appropriations, as one or many riparian owners would oppose such appropriation because it might harm their future uses. Not even when the proposed future use might be unreasonable, and the proposed appropriation useful to the common good, could the use detract from this riparian right. This made California's new riparian owners as powerful as an owner would have been under the absolute water doctrine. A case which demonstrated this renewed absolutist doctrine was the 1926 case of *Herminghaus v. Southern California Edison*.³⁵¹

In that case Southern California Edison Company (the defendant) owned land upstream of Herminghuas (the plaintiff) on the San Joaquin river, where it was planning to build a power plant. The relevant local and national authorities had granted permission for the plant, as it would generate much needed electricity for California's growing population. These plans were opposed by the plaintiff, who brought action to obtain an injunction against its construction, on the basis that the proposed diversion of the waters required to fill the dam and the loss of annual flood waters, would injure his riparian rights. Apparently, it was only during the annual flood that the river rose up to a high enough for water to flow in canals at the higher elevations of the defendant's property and a loss of this annual watering would be detrimental to the productivity of that part of his property. The actual amount of water available for use on his property water was never at issue, as the dam would be filled during the spring runoff periods and the power generation activities did not actually take any water out of the river. To the extent that the plaintiff was seeking not damages, but an injunction against the construction of the power plant, it appears reasonable to suppose that he was less concerned with watering his land than he was about being able to extort a much larger amount of money from the defendant in return for having the injunction lifted.

The practical decision the court had to make was should it allow the defendant to build the dam and provide much needed power to the State, or should it order an injunction which would allow the plaintiff to wet a small part of his land on an annual and temporary basis. Of course, they could have also decided that these choices were not the only options. For example, they could have denied the injunction, but ordered the defendant to pay the cost of installing irrigating equipment, which could be used to water the higher land throughout the year making it even more productive than it was with the annual flooding. Such a decision would be totally in keeping with the Supreme Courts authority and resolve the matter in a reasonable and equitable manner. The plaintiff would be better off, and the defendant could build, and the people of the State would receive an additional supply of much needed electricity.

³⁵¹ *Herminghaus v. Southern California Edison Co*, 200 Cal. 81, (1926)

Surprisingly in a four to three split decision the court granted the injunction, the majority justifying this decision based on what can only be described as an absolute riparian right.

'In the presence of the foregoing consistent rulings of this court and of the federal court having reference to the precise or similar conditions relative to the annual, usual, ordinary, and regularly recurring outflow of the San Joaquin River during the varying seasons of each and every year we are constrained to hold that in so far as the lands of said plaintiffs shall be found to be riparian to said river they are entitled to the exercise and enjoyment of whatever riparian rights they shall be determined to be invested with, in the entire flow of the waters of said river considering the same with its seasonal accretions as the usual and ordinary flow of said stream during each and every year.'³⁵²

And further stating that:

'The doctrine that a riparian owner is limited to a reasonable use of the water applies only as between different riparian proprietors. As against an appropriator who seeks to divert water to nonriparian lands, the riparian owner is entitled to restrain any diversion which will deprive him of the customary flow of water which is or may be beneficial to his land. He is not limited by any measure of reasonableness.'³⁵³

The dissenting opinion pointed out that:

'In section 11 of that act [The Water Commission Act of 1913] the legislature has provided that all waters flowing in any river, except in so far as the same are or may be *reasonably needed* for useful and beneficial purposes upon lands riparian thereto or otherwise appropriated, are declared to be public waters of the state and subject to appropriation in accordance with the provisions of the act.'³⁵⁴

Arguing that:

'In order to have the beneficial use of less than one per cent of the maximum flow of the San Joaquin River on their riparian lands the plaintiffs are contending for the right to use the balance in such a way that, so far as they are concerned, over ninety-nine per cent of that flow is wasted. This is a highly unreasonable use or method of the use of water.'³⁵⁵

6.1.3 Reasonable or Beneficial Use Rights

Unsurprisingly two years later in 1928 the California Legislature passed a Constitutional amendment which significantly enhanced the State Water Resources Control Board authority to limit unexercised riparian rights. The amendment states in part:

³⁵² *Id.* p 91

³⁵³ *Id.* p100-101

³⁵⁴ *Id.* p124

³⁵⁵ *Id.* p 123

'It is hereby declared that because of the conditions prevailing in this state the general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this state is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than as much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; *provided, however*, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which his land is riparian under reasonable methods of diversion and use, or of depriving any appropriator of water to which he is lawfully entitled. This section shall be self-executing, and the legislature may also enact laws in the furtherance of the policy in this section contained.'³⁵⁶

From a practical prospective this amendment abolished a riparian owners' right to use the natural flow of the water for unreasonable or wasteful purposes, while preserving their right to the that same flow for beneficial and useful purposes, and rights of appropriative owners to their specified uses. Whereas this requirement for beneficial use did not replace, but rather only limited the rights of riparian water users, it does not necessarily represent a new doctrine. Indeed, under an application of the riparian doctrine in English courts this sort of legislative measure was not needed as they took a much less absolutist approach to applying the doctrine.

Regardless of whether "beneficial use" was a new doctrine or not, it did change the rights of water users, and as such was inevitably going to be challenged by water users which wanted to maintain their absolutist rights, and this is precisely what happened a few years later in the case of *GIN S. CHOW v. CITY OF SANTA BARBARA*.³⁵⁷

This case was similar to *Herminghaus v. Southern California Edison* in that the Gin S. Chow (the plaintiff) was seeking an injunction under his riparian rights to prevent the City of Santa Barbra (the defendant) from appropriating flood water upstream of the Santa Ynez River which ran by his property. It was different because this appropriation, involved constructing a dam, and series of canals and tunnels to divert the water from the river to Santa Barbra, where it would be used for domestic consumption. Unlike *Herminghaus v. Southern California Edison*, this would permanently reduce the flow of the river by the amount diverted. In order to avoid injury to the riparian right holders down the river it was stipulated that any diversion to fill the dam could only be done in the rainy season when the river was flooding, and those flood waters would otherwise flow past the riparian owners and be lost to the sea.

When the lower court ruled on the case denying the injunction they also stipulated that:

³⁵⁶ Cal. Const., art. X, § 2, formerly art. XIV, § 3.

³⁵⁷ "GIN S. CHOW v. CITY OF SANTA BARBARA, 217 Cal. 673, (Cal. 1933)

'In order to safeguard at all events the usual, ordinary and customary flow of the stream to which the plaintiffs are found to be entitled, the court directed that the defendant city shall, during the summer and fall months in each year, and until the ensuing rainy season, release and discharge from the Gibraltar dam, into the stream channel of the river below said dam and reservoir, waters in excess of the waters flowing into said reservoir during said period, to the extent of 616 acre-feet; and that the defendants shall make and maintain such adequate and efficient provision, in connection with their dams and reservoirs, as will permit the usual, ordinary and customary flow of the river to be discharged into the stream bed of the river below the Gibraltar dam.'³⁵⁸

This stipulation meant that the plaintiff would have a steadier flow of water throughout the year, which provided a potential to increase the productivity of his property. The plaintiff was however not satisfied with this ruling and made an appeal which was being heard in the Supreme Court. The plaintiff contention with respect to this appeal was that; although he was not capable of capturing the flood water, when it flooded it increased the saturation of the ground under his land and that the loss of this saturation was a breach of his riparian rights. The weakness of this argument lends itself to the notion that this case, like *Herminghaus v. Southern California Edison*, was more about attempting to extort excessive rewards through injunctive actions, than it was about protecting riparian rights.

Obviously in the intervening period between the two cases the Legislature had amended the constitution, as described earlier. It was because of this amendment that the appeal failed. The court referring to the constitution in its ruling as follows:

'The purpose of the amendment was stated to be "to prevent the waste of waters of the state resulting from an interpretation of our law which permits them to flow unused, unrestrained and undiminished to the sea", and is an effort "on the part of the state, in the interest of the people of the state, to conserve our waters" without interference with the beneficial uses to which such waters may be put by the owners of water rights, including riparian owners. That such purpose is reflected in the language of the amendment is beyond question. Its language is plain and unambiguous. In the main it is an endeavor on the part of the people of the state, through its fundamental law, to conserve a great natural resource, and thereby render available for beneficial use that portion of the waters of our rivers and streams which, under the old riparian doctrine, was of no substantial benefit to the riparian owner and the conservation of which will result in no material injury to his riparian right, and without which conservation such waters would be wasted and forever lost. It was because this court felt impelled to adhere to the long-established rule of *Lux v. Haggin*, *supra*, that a constitutional amendment was made necessary. Upon the adoption of the amendment, it superseded all state laws inconsistent therewith.'³⁵⁹

³⁵⁸ *Id.* p 691

³⁵⁹ *Id.* p700

To justify using the amendment in its ruling and to quell the notion that rules limiting riparian rights constituted a taking of property without compensation, which is prohibited by the American constitution, the court stated that:

'There is a well recognized and established distinction between a "taking" or "damaging" for public use and the regulation of the use and enjoyment of a property right for the public benefit. The former falls within the realm of eminent domain, and the latter within the sphere of the police power. That the constitutional amendment now under consideration is a legitimate exercise of the police power of the state cannot be questioned. It is the highest and most solemn expression of the people of the state in behalf of the general welfare. The present and future well-being and prosperity of the state depend upon the conservation of its life-giving waters.'³⁶⁰

Further stating that:

'It has been long established that all property is held subject to the reasonable exercise of the police power and that constitutional provisions declaring that property shall not be taken without due process of law have no application in such cases. ... The constitutional amendment of 1928 is an exercise of that power. This is especially true as applied to the facts of the present case, which is a controversy between the public, represented by the municipality and the water district, on the one hand, and the property owners asserting a vested interest as against the exercise of the power on behalf of the public, on the other hand.'³⁶¹

Curiously while this California Supreme Court felt that they could only limit riparian rights as the result of a constitutional amendment, an earlier California Supreme Court did not feel as constrained when the extraction and use of ground water was at issue. In that earlier case the Supreme Court simply rejected both the riparian doctrine and appropriation doctrine and replaced them with a newly created correlated rights doctrine.

6.1.4 Correlated Rights

The practical implication of the correlated rights doctrine was that it allocated ground water rights not to the seniority of use, but rather according to a proportional share of the land which was owned above the reservoir. So, if a land owner owned 10% of the land above a reservoir than they were entitled to 10% of the natural replenishment rate of that reservoir. While this doctrine was first developed and applied in the 1902 case of *Katz v. Walkinshaw*,³⁶² it has since been adopted by a number of States throughout America. The reason why this doctrine is evolved in the United States and has not been evident in the other nations is related to the nature of property rights in America. Unlike most other nations where underground water resources are considered to be the property of the state, in America they are owned by the surface property owner. This situation being a direct result of the American revolution which reject the British monarchy and the notion of monarchical ownership of property which persisted prior to the revolution. Ironically in this respect American law follows the common law

³⁶⁰ *Id.* p701

³⁶¹ *Id.* p703-704

³⁶² *Katz v. Walkinshaw*, 141 Cal. 116 (Cal. 1902)

Latin maxim of “Cuius est solum, eius est usque ad coelum et ad inferos”, more so that British law. The net result however is that; while in the rest of the world the state usually owns underground water and as such does not need a doctrine to control that use, in America this doctrine is essential.

In the initial case of *Katz v. Walkinshaw*, the Supreme Court of Californian were asked to rule on the following facts;

“The action was brought to enjoin defendant from drawing off and diverting water from an artesian belt which is in part on or under the premises of plaintiffs, and to the water of which they have sunk wells, thereby causing the water to rise and flow upon the premises of plaintiffs, and which they ever had constantly so flowed, for 20 years before the wrong complained of was committed by defendant. The water is necessary for domestic purposes, and for irrigating the lands of plaintiffs, upon which there are growing trees, vines, shrubbery, and other plants, which are of great value to plaintiffs. All of said plants will perish, and plaintiffs will be greatly and irreparably injured, if the defendant is allowed to divert the water ... further that defendant is diverting the water for sale, to be used on lands of others distant from the saturated belt from which the artesian water is derived”³⁶³

It was the plaintiff’s contention that the artesian belt constituted an underground stream, which made them a riparian property owner, and this provided an unalienable right with respect to the water in that stream.

As discussed above, the fundamental right provided by the riparian water doctrine is the right of all property holders to a natural flow of water on to their property. By implication this right requires that any flow of water which naturally enters a property, be allowed to flow unhindered through the property, so that the natural flow can be provided to downstream property owners. Whilst the doctrine allowed for reasonable uses such as; water for households, drinking water for livestock, and irrigation for plants, riparian owners were not allowed the transfer and use of water beyond the bounds of the watershed area, as this would result in the absolute loss of water to downstream riparian rights holders.

Reading through the case, it is clear that the main reason why the plaintiff sought to invoke their riparian rights was because the defendant was not using the water that they extracted from their property, on their property. Rather they were selling and shipping the water to other landowners which did not have property overlaying the artesian belt, in direct contradiction of the principle restriction of the riparian water doctrine. The difficulty with this contention was that the defendant was not drawing the water from an open source, but was drawing the water from an underground source or more particularly drawing water from an underground source that percolating to the surface on their property.

This distinction is important; because while drawing water from an open source would potentially open the defendant up to riparian rights claims, drawing from an underground source could allow the defendants to claim that riparian rights did not apply. Indeed, in this case not only did the defendant claim that the riparian doctrine did not apply, they also claimed that the proper doctrine to apply to the artesian stream or any underground water was an absolutist

³⁶³ *Id.* p1

doctrine which gave property owners the rights to any objects below or above the land that they owned.

As mentioned earlier this absolutist doctrine is another very old doctrine which can be traced back to the 13th century maxim; “Cuius est solum, eius est usque ad coelum et ad inferos”, Latin for “ whoever owns [the] soil, [it] is theirs all the way [up] to Heaven and [down] to Hell”.³⁶⁴ While it can be traced back to the thirteenth century, it really came into prominence in the 17th century after the publication of William Blackstone’s, influential legal writings “Commentaries on the Laws of England” in 1766. In these writings Blackstone described the ownership rights of land as follows;

'Land hath also, in its legal signification, an indefinite extent, upwards as well as downwards. *Cujus est solum, ejus est usque ad coelum*, is the maxim of the law, upwards; therefore no man may erect any building, or the like, to overhang another's land: and, downwards, whatever is in a direct line between the surface of any land, and the center of the earth, belongs to the owner of the surface; as is every day's experience in the mining countries. So that the word "land" includes not only the face of the earth, but every thing under it, or over it. And therefore if a man grants all his lands, he grants thereby all his mines of metal and other fossils, his woods, his waters, and his houses, as well as his fields and meadows.”³⁶⁵

According to this specific passage, ownership of all water on a property appears to rest with to the owner of the property, however in a previous passage Blackstone appears to accept at least a partial deference the concept of riparian rights when related to open water. For in this previous passage Blackstone refers to the difficult of owning water because of its transitory nature.³⁶⁶

The rational for this absolutist doctrine can be derived in the earlier works of John Locke who provided a natural law reasoning for property ownership.³⁶⁷ As mentioned earlier under Locke’s version of natural law, private ownership was justified because property in private ownership tended to be more productive than property the was held in public ownership.³⁶⁸ It does not take a huge leap of logic to conclude that if private ownership creates greater productivity, than

³⁶⁴ Ayer Company Publishers, Harvard Legal Essays, Written in Honor of and Presented to John Henry Beale and Samuel Williston, (1977), p.522 note 8: "He who owns the soil owns it up to the sky." The maxim had no place in the Roman law during its classical period, but is said to have been first used by Accursius of Bologna, a commentator, who flourished in the thirteenth century. It has been suggested that the maxim was introduced into England by the son of Accursius whom Edward I brought with him on his return from the Holy Land and who for many years held high office under the Crown and also was connected with Oxford University. Bouvé, Private Ownership of Airspace, 1 Air Law Rev. 232, 246–248. At any rate, nearly three centuries later the reporter's note to *Bury v. Pope*, Cro. Eliz. 118 [78 Eng. Rep. 375] (1587) ascribes the maxim to the time of Edward I."

³⁶⁵ Blackstone, *Commentaries*. Book II. Ch. 2. p 18

³⁶⁶ *Id.*, p 18 "For water is a moveable, wandering thing, and must of necessity continue common by the law of nature; for that I can only have a temporary, transient, usufructuary property therein: wherefore if a body of water runs out of my pond into another man's, I have no right to reclaim it. But the land, which that water covers, is permanent, fixed, and immoveable: and therefore in this I may have a certain, substantial property, of which the law will take notice, and not of the other."

³⁶⁷ Locke, *Two Treatises*, (1690)

³⁶⁸ *Id.* Thesis 2, Chap 1, para. 40 "let any one consider what the difference is between an acre of land planted with tobacco or sugar, sown with wheat or barley, and an acre of the same land lying in common without any husbandry upon it, and he will find that the improvement of labour makes the far greater part of the value. I think it will be but a very modest computation to say, that of the products of the earth useful to the life of man, nine-tenths are the effects of labour."

absolute private ownership must provide the most productive result. This of course was the reasoning that prevailed in William Blackstone's commentaries. As this doctrine followed the riparian doctrine it can be considered an attempt to create a universal acceptable way of allocating resource use, whether in the land, or the resources under the land. To the extent that this absolute private ownership allowed property owners to grow crops and mine minerals on property that was previously fallow or unproductive, this justification appeared reasonable. The major flaw with it is that this doctrine fails to recognise that unrestricted actions of one property owner, can have severely detrimental effects on other property owners. This flaw which was to become known as external effects have been debated by economists and litigated in the courts ever since.

In this case it is clear that this was the rationale and the logic that the defendants were following, because the cases listed by the defendants in support of their claim of absolute property rights were cases involving the mining rights of property owners.³⁶⁹

This short summary describes this was the case that the court was to adjudicate. Two parties both claiming rights to water that was under their respective properties. One using the ancient doctrine of riparian water rights and the other using a later doctrine of absolute property rights. As a side note it is interesting that the defendant did not claim their water rights under the more modern doctrine of prior appropriation. Like the absolute property right doctrine, this doctrine was supported by John Locke's natural law which claims to grant property rights to the first person that blended this work with a property.³⁷⁰ In this case as the defendant has been using the underground water for 20 years, they would clearly have some sort of prior appropriation claim on the water. However, it is perhaps fortunate that this claim was not made, for it may have prevented the court from deciding the case in the way that it did. That is by rejecting the claims of both the plaintiff and defendant and establishing a new correlated rights doctrine.

With respect to the riparian rights the court rejected the plaintiffs claim on both technical and practical grounds. The technical grounds were associated with underground nature of the water. This rejection as enunciated by Judge Temple in his opinion, as follows;

'It is quite manifest that this body (if it can be so styled) of percolating water cannot be called an underground water course to which riparian rights can attach...The plaintiffs, therefore, cannot establish their claim upon a theory of an underground water course to which they are riparian'³⁷¹

From a practical prospective the court took issue with the inevitable consequence of applying a strict interpretation of riparian rights as provided by this observation;

'It is even said that the opposite doctrine (applying to such water the rule as to riparian rights) would amount to total abrogation of the rights of property. It is said

³⁶⁹ *Katz v. Walkinshaw*, 141 Cal. 116 (Cal. 1903) *Katz v.* "He [the defendant] cites authority for the proposition: *Hanson v. McCue*, 42 Cal. 303, 10 Am. Rep. 299; *Railroad Co. v. Dufour*, 95 Cal. 616, 30 Pac. 783, 19 L.R.A. 92; *Gould v. Eaton*, 111 Cal. 639, 44 Pac. 319, 52 Am. St. Rep. 201; and *City of Los Angeles v. Pomeroy*, 124 Cal. 597, 57 Pac. 585.

³⁷⁰ Locke, *Two Treatises*, (1690) Ch 5, Sec 27 "Sect. 27. Though the earth, and all inferior creatures, be common to all men, yet every man has a property in his own person: this nobody has any right to but himself. The labour of his body, and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property."

³⁷¹ *Katz v. Walkinshaw*, 141 Cal. 116 (Cal. 1902)

one could not clear or cultivate his land or build a house without interfering with percolating water, and, even if rights were admitted to exist, the difficulty of enforcing them would be insurmountable.¹³⁷²

This rejection of the riparian doctrine was matched by an equally unequivocal rejection of a technical and practical grounds of the defendant's claims under the absolutist doctrine. With respect to the technical grounds the court rejected the notion that water was the same as any other mineral or resource located under a property. This rejection being based on the transitory nature of water. In this point Judge Temple wrote the following;

'It is obvious at once that the analogy between the right to remove sand and gravel from the land for sale, and to remove and sell percolating water, is not perfect. If we suppose a saturated plain, one may remove and sell the sand and gravel from his land without affecting or diminishing the sand and gravel on the lands of his neighbors. If the water on his lands is his property, then the water in the soil of his neighbors is their property. But when he drains out and sells the water on his land, he draws to his land and also sells water which is the property of his neighbor. Mid the effect is similar in other respects. By pumping out the water from his lands, he can, perhaps, deprive his neighbors of water for domestic uses, and in fact render their land valueless.'

From a practical prospective Judge Temple took issue with the very negative consequences that applying a strict interpretation of this absolutist doctrine would have on the property concerned. This was noted by referring to the argument made by the counsel for the plaintiff's when Judge Temple states:

'The learned counsel for the appellants state in their belief that water at San Bernardino is worth \$1,000 per inch of flow. Percolating water or water held in the earth is the main source of supply for domestic uses and for irrigation, without which most lands are unproductive. It is also stated that speculators are seeking to appropriate the percolating water by getting title to some part of a watershed or slope, and by running canals and tunnels, and by sinking to obtain water for sale. It is asserted that the lands naturally made moist by percolating water are very productive, and were first settled upon, and have been most highly improved; and he asks whether these lands are to be converted into deserts because speculators may pump and carry away to some distant locality the subsurface waters which rendered the land fertile. Certainly, no such case as this has come before a court or could well exist in England or in the Eastern states.'³⁷³

The last sentence of this paragraph though rather inconspicuous, was perhaps the most important. For it is with this idea, that the judge sought to justify the rejection of the absolutist doctrine. The essence of this sentence was that; while the absolutist doctrine was applied in England or the Eastern States where there is an abundance of water, the arid nature of the Southern Californian creates circumstances which render the English and Eastern States precedents inappropriate.

³⁷² Id.

³⁷³ Id.

The rejection of the claims of both plaintiff and the defendant, meant that the court would have to find an alternative way of deciding the case. As part of this process Judge Temple recognised that there was a change in underlying circumstances which he describes as follows;

'We have derived our law, in respect to subterranean waters, as in other respects, mostly from England, but in regard to this matter the first cases are quite modern. Even yet the text-books on water rights have but little to say upon the subject of percolating water. Such law as has been made upon the subject comes from countries and climates where water is abundant, and its conservation and economical use of little consequence, as compared with a climate like southern California." and "in England and in our Eastern states a more thorough and minute consideration of the equities of parties may not often be required. The ease is very different, however, in an arid country like southern California, where the relative importance of percolating water and water flowing in definite water courses is greatly changed.'³⁷⁴

Given these changes the underlying circumstances, Judge Temple details his search for a more appropriate doctrine. This search lead him to analyse the doctrine of reasonable use. In cases cited by him, property owners used were allowed to use water both open and percolating for the betterment of their property.

'The doctrine of reasonable use has been recognized In many cases In the United States, impliedly in most, as I have stated, but expressly in some.

Wheatley v. Baugh, 25 Pa. 528, 64 Am. Dec. 721, 4 Pitts. Leg. J. 452, is one of these, and is remarkable in that the court states as strongly as possible, and with approbation, the *cujus est solum* doctrine.... And yet, notwithstanding this insistence upon the rule which apparently ignores all equities of others than the owner of the soil in which the water is found, the court felt obliged to, and did, in unequivocal words, declare that the use of it must be reasonable. The proprietor may make a reasonable, use of his own land, although in so doing he obstructs or changes the percolation of water to or from his neighbor's land.

Pixley v. Clark, 35 N.Y. 520. 35 N.Y. 520, 91 Am. Dec. 72: "An owner of the soil may divert percolating water, consume, or cut it off with impunity. It is the same as land, and cant not be distinguished in law from land." He says this proposition must be admitted, but nevertheless a case cannot be found in this country "where the right has been upheld in the owner of land to destroy a stream, a spring, or a well upon his neighbor's land, by cutting off the source of its supply, *except it was done in the exercise of a legal right to improve the land, or make some use of it in connection with the enjoyment of the land itself.*" I have italicized the last clause, as it contains the qualification found in the civil law, upon which the English rule is professedly based, and expresses the principle for which I contend.... The court recognized the right of the landowner to percolating water, but says the right must be exercised with reference to the equal right of others in their land, lie says one may as well claim the right to tunnel into his neighbor's land and take out valuable minerals, as to drain from it water which is also parcel of it, for sale. The peculiar nature of the property which

³⁷⁴ Id.

enables one to take it by drainage does not justify the taking, save in the usual and reasonable use of his own land, - in other words, for the proper use and betterment of his own property

Forbell v. City, of New York, 164 N. Y. 522, 58 N. E. 644, 51 L. R. A. 695, 79 Am. St. Rep. 666. It was a suit by another plaintiff, restrain the same operations considered in *Smith v. City of Brooklyn*. Here there was no visible stream or pond on plaintiff's land. His injury was merely that the level of the water held in the soil was lowered, to his injury. In stating the case the court said: "The city makes merchandise of the large quantities of water which it draws from the wells that it has sunk on its two acres of land. The plaintiff does not complain that any surface stream or pond or body of water upon his land is thereby affected, but does complain, and the courts below have found, that the defendant exhausts his land of its accustomed and natura supply of underground or subsurface water, and thus prevents him from growing upon it the crops to which the land was and is peculiarly adapted, or destroys such crops after they are grown or partly grown." This statement shows a striking similarity of the issues made in that case to those involved here. The court proceeds to state the usual doctrine in regard to percolating water and approves the doctrine for the cases in which it is properly applicable. No doubt, the land proprietor owns the water which is parcel of his land, and may use it as he pleases, regard being had to the rights of others. It is not unreasonable that he should dig wells in order to have the fullest enjoyment and usefulness of his estate, or for pleasure, trade, or whatever else the land as land may serve. "But to fit it up with wells and pumps of such persuasive and potential reach that from their base the defendant can tap the water stored in the plaintiff's land, and in all the region thereabout, and lead it to his own land, and, by merchandising it, prevent its return, is, however reasonable it may appear to the defendant and its customers, unreasonable as to the plaintiff and others, whose lands are thus clandestinely sapped and their value impaired. Counsel for the plaintiff in that case contended that, since plaintiff owned the percolating water in his own soil, the unlawful draining of it away by the defendant was a trespass committed on his land. This contention was sustained both in the supreme court and in the court of appeals."³⁷⁵

As convinced as Judge Temple was of the appropriateness of the reasonable doctrine in this case, he did not limit this ruling to just applying this doctrine. For in attempting to limit the impact of the reasonable use doctrine he also created a new one, the doctrine of correlated property rights. The doctrine itself was developed in three separate stages, in different parts of the opinion. In the first stage Temple discusses the idea that members of the community have a common interest in the water;

'In short, the members of the community, in the case supposed, have a common interest in the water. It is necessary for all, and it is an anomaly in the law if one person

³⁷⁵ *Id.*

can for his individual profit destroy the community, and render the neighborhood uninhabitable.”³⁷⁶

In the second stage he discusses how riparian water rights are limited by correlative rights of other riparian owners;

'A riparian owner may not divert the water, because he would thereby injure his neighbors who have equal rights in the stream. Still he may take a reasonable amount from the stream for domestic purposes, and that may equal the entire flow, although he thereby injures his neighbors. It is a question of reasonable use, and that applies both to the land of the person disturbing the percolation and to adjoining land. He may cultivate his land, and for that purpose ordinarily may drain it, and plow it or clear it from forests, although all these operations may affect the flow of water to the lower proprietor, both in the water course and by percolation. He was allowed to become the owner for those purposes, and with the understanding that all other proprietors have the same right to use their land. The maxim, "Sic utere," etc., plainly applies as between such proprietors, very much as it does between different riparian proprietors upon the same stream. The title to all land is held subject to this maxim. Such ownership is "but an aggregation of qualified principles, the limits of which are prescribed by the equality of rights, and the correlation of rights and obligations necessary for the highest use of land by the entire community of proprietors." *Thompson v. Improvement Co.*, 54 N. H. 545.³⁷⁷

This introduction of the maxim "Sic utere" in conjunction with notions of equality and correlation clearly indicates a definition of property rights that cannot be viewed in isolation, but must also concerned with the property rights of other property owners.³⁷⁸ Further just as this inclusion nullifies the qualifying statement that a riparian owner may "take a reasonable amount which may equal the entire flow of the stream", it also nullifies a reasonable use doctrine that would allow one owner the take all the water, injuring the other property owners.

In the final stage he indicated that the same correlative rights that limit riparian rights ought to limit reasonable use rights. This stage was presented in the final part of the opinion which although a little confusing, were as follows;

'Whatever the English rule may be, the American cases either recognize the application of the rule of "Sic utere tuo" to the subject, or they are cases in which it was wholly unnecessary to consider that subject. ... Still this court was not called upon to, and did not consider any such question. I think it clear that the American cases do not require us to hold that the maxim, "Sic utere tuo," does not limit the right of the landowner to the use of subsurface water, but, on the contrary, all the cases in which the question has been discussed held or admit that such maxim should limit such right where justice requires it. Such, I think, is the proper rule.'

³⁷⁶ *Id.*

³⁷⁷ *Id.*

³⁷⁸ The full phrase is "*Sic utere tuo, ut alienum non laedas*" which can be roughly translated as "Everyone must so use his own property as not to injure the rights of others".

Whatever the intentions of Judge Temple, the implications of this ruling were so great, that a host of water companies joined together to petition for an appeal of the case.³⁷⁹ The Californian Supreme Court granted a rehearing of the case;

'for the purpose of considering more fully, and by the aid of such additional arguments as might be presented by persons not parties to the action, but vitally interested in the principle involved, a question that is novel and of the utmost importance to the application to useful purposes of the waters which may be found in the soil.'³⁸⁰

In this petition the respondents and their amicus supporters contended; 1) that under common law the plaintiff can only recover from an action based on a subterranean stream, 2) that a plaintiff cannot recover from a different cause of action from that alleged, and 3) that the absolute right to percolating water was settled law. In support of their petition they cited dozens of cases from both California and other states all of which they contended upheld the absolute doctrine in percolation water.³⁸¹

What is clear from this petition was that there were a number of large, more powerful parties who were determined to eliminate correlative property rights in water, before it had a chance to be established as a reliable legal doctrine. However, these parties were in for a huge surprise; as the Supreme Court of California in this rehearing, not only endorsed correlative property rights, they also rejected the notion that the absolute property right doctrine was settled law. Further unlike the earlier ruling, there was nothing confusing about this ruling. In all aspects including; its confirmation of the flexibility of common law, its rejection of that absolute doctrine, and its endorsement of correlative property right were clear and unequivocal.

³⁷⁹ Katz v. Walkinshaw, 141 Cal. 116 (Cal. 1903), p 1 "Byron Waters, for Respondent; R. E. Houghton, for Riverside Water Company; E. W. Freeman, for Temescal Water Company; John E. Daly, and Henry J. Stevens, for Glendora-Azusa Water Company; Lucius K. Chase, for Corona City Water Company; Henry J. Stevens, for Citrus Belt Water Company; C. H. Wilson, for Corona Irrigation Company; M. B. Kellogg, for Gage Canal Company; Page, McCutchen, Harding & Knight, for Contra Costa Water Company; Houghton & Houghton, for Miller & Lux and Frederick Cox; Frank H. Short, Otis & Gregg, Howard Surr, Platt & Bayne, and Henley C. Booth, City Attorney of Santa Barbara, *Amici Curiae*, also for Respondent."

³⁸⁰ *Id.* p1

³⁸¹ *Id.*, p 1 "Mandran v. Goux, 51 Cal. 151; Reed v. Norton, 99 Cal. 617, 619; Eastlick v. Wright, 121 Cal. 309; Kelly v. Plover, 103 Cal. 35; Riverside Water Co. v. Gage, 108 Cal. 240, 244; Rudel v. Los Angeles County, 118 Cal. 281, 286; Wallace v. Farmers' Ditch Co., 130 Cal. 578, 583; Schirmer v. Drexler, 134 Cal. 134, 139; Hanson v. McCue, 42 Cal. 303; ^{1a} Painter v. Pasadena L. and W. Co., 91 Cal. 74, 82; Southern Pacific Co. v. Dufour, 95 Cal. 616; Gould v. Eaton, 111 Cal. 641; ^{2a} City of Los Angeles v. Pomeroy, 124 Cal. 597; Vineland Irr. Dist. v. Azusa Pl. Dist., 126 Cal. 486.) The California law on this subject accords with the great weight of American and English authorities. (27 Am. & Eng. Ency. of Law, 425; Breuning v. Dorr, 23 Colo. 195; Wilson v. Ward, 26 Colo. 39; Roath v. Driscoll, 20 Conn. 533; ^{3a} Brown v. Ilius, 25 Conn. 593; S. C. 27 Conn. 84; ^{4a} Metcalf v. Nelson, 8 S. Dak. 180 Ill. 99; New Albany etc. R. R. Co. v. Peterson, 14 Ind. 116; 89; ^{5a} Deadwood Cent. R. Co. v. Barker, 14 S. Dak. 558; Tampa Waterworks Co. v. Cline, 37 Fla. 586; ^{6a} Saddler v. Lee, 66 Ga. 45; ^{7a} Warmack v. Brownlee, 84 Ga. 196; Edward v. Haeger, 180 Ill. 99; New Albany etc. R. R. Co. v. Peterson, 14 Ind. 116; Taylor v. Fickas, 64 Ind. 172; ⁸ City of Emporia v. Soden, 25 Kan. 588; ⁹ Kinnigird v. Standard Oil Co., 89 Ky. 473; ¹⁰ Chase v. Silverstone, 62 Me. 175; ¹¹ Chesley v. King, 74 Me. 164; ¹² Greenleaf v. Francis, 18 Pick. 117; Wilson v. New Bedford, 108 Mass. 26; Davis v. Spalding, 157 Mass. 431; Upjohn v. Richland Twp., 46 Mich. 549; ¹³ Ocean Grove C. M. Assn. v. Asbury Park, 40 N. J. Eq. 447; Ellis v. Duncan, 21 Barb. 230; Dehli v. Youmans, 50 Barb. 305; Goodale v. Tuttle, 29 N. Y. 459; Trustees of Dehli v. Youmans, 45 N. Y. 362; ¹⁴ Bliss v. Greeley, 45 N. Y. 671; ¹⁵ Johnstown etc. Co. v. Veght, 69 N. Y. 16; ^{1b} Phelps v. Nowlen, 72 N. Y. 39; ^{2b} Bloodgood v. Ayers, 108 N. Y. 400; ^{3b} Frazier v. Brown, 12 Ohio St. 300; Elster v. Springfield, 49 Ohio St. 100; Taylor v. Welch, 6 Or. 199; Sullivan v. Mining Co., 11 Utah, 441; Crescent Min. Co. v. Silver King Min. Co., 17 Utah, 444, 451; ^{4b} Willow Creek Irr. Co. v. Michaelson, 21 Utah, 248; ^{5b} Chatfield v. Wilson, 28 Vt. 49; 31 Vt. 357; Harwood v. Benton, 32 Vt. 742, 737; Wheelock v. Jacobs, 70 Vt. 162; ^{6b} Miller v. Black Rock etc. Co., 99 Va. 747; ^{7b} Meyer v. Tacoma L. and P. Co., 8 Wash. 144, 147; Acton v. Blundell, 12 Mees. & W. 324; New River Co. v. Johnson, 2 El. & E. 405."

The confirmation of the flexibility of common law was so poignant and relevant it not only was quoted at the commencement of this chapter but deserves to be cited in full here;

'The true doctrine is, that the common law by its own principles adapts itself to varying conditions, and modifies its own rules so as to serve the ends of justice under the different circumstances, a principle adopted into our code by section 3510 of the Civil Code: "When the reason of a rule ceases, so should the rule itself." This is well stated in *Morgan v. King*, 30 Barb. 16: "We are not bound to follow the letter of the common law, forgetful of its spirit; its rule instead of its principle. ... If so, the common law modifies its rules upon its own principles, and conforms them to the wants of the community, the nature, character, and capacity of the subject to which they are to be applied." In *Beardsley v. Hartford*, 50 Conn. 542, ⁴ the court says: "It is a well-settled rule that the law varies with the varying reasons on which it is founded. This is expressed by the maxim: '*Cessante ratione, cessat ipsa lex*.' This means that no law can survive the reasons on which it is founded. It needs no statute to change it; it abrogates itself. If the reasons on which a law rests are overborne by opposing reasons, which, in the progress of society, gain controlling force, the old law, though still good as an abstract principle, and good in its application to some circumstances, must cease to apply or to be a controlling principle to the new circumstances." Accordingly, in many instances in this country, in states where the common law is held to be in force, some of its rules are held to be not applicable to the conditions different from the place of its origin.'³⁸²

While the petitioners were assuming that the common law relating to water was to be regarded as a static law, unchanging regardless of circumstances, the court took the opposite view. It decided that; if applying old law to new circumstances resulted in an inefficient and unjust outcome, it was the law itself that must change. It should be noted, that court did not take this decision to alter the law lightly. As was clearly stated in the following quote from the opinion written by Judge Shaw;

'An ordinary difference in the conditions would scarcely justify the refusal to adopt a rule of the common law, or one which has been so generally supposed to exist; but where the differences are so radical as in this case, and would tend to cause so great a subversion of justice, a different rule is imperative.'³⁸³

With respect to the specific rejection of the absolute property right doctrine in water, Judge Shaw attempted to highlight the potential injustice and inefficiency of adhering to this doctrine. He did this as follows:

'It is apparent that the parties who have asked for a reconsideration of this case, and other persons of the same class, if the rule [absolutist doctrine] for which they contend is the law, or no law, of the land, will be constantly threatened with danger of utter destruction of the valuable enterprises and systems of water-works which they control, and that all new enterprises of the same sort will be subject to the same peril.

³⁸² *Id.*

³⁸³ *Id.*

They will have absolutely no protection in law against others having stronger pumps, deeper wells, or a more favorable situation, who can thereby take from them unlimited quantities of the water, reaching to the entire supply, and without regard to the place of use. We cannot perceive how a doctrine offering so little protection to the investments in and product of such enterprises, and offering so much temptation to others to capture the water on which they depend, can tend to promote developments in the future or preserve those already made, and, therefore, we do not believe that public policy or a regard for the general welfare demands the doctrine.¹³⁸⁴

As can be gleaned from this part of the opinion, the court clearly had little more than contempt for the absolute property right doctrine in water and provide a much clearer and more aggressive rejection of it than had been provided in the previous case. That the petition should have resulted in such scathing reproach was far from certain and once again demonstrates the clear and unequivocal ruling of the court.

Following this rejection of absolute rights, the court then proceeded to provide an explanation of what correlative property rights were, and why justice demanded that it be applied regardless of the judicial challenges inherent in their application. Their description of correlative property rights being so clear and concise it could be enunciated in a single sentence;

'Disputes between overlying landowners, concerning water for use on the land, to which they have an equal right, in cases where the supply is insufficient for all, are to be settled by giving to each a fair and just proportion.'¹³⁸⁵

The beauty of this statement is that requires little analysis or interpretation. It is a simple straight forward endorsement of proportionality as the guiding principle of a just system of justice. As to the application of the doctrine the court took note of the petitioner's concerns and responded as follows in the final paragraphs of the opinion;

'The objection that this rule of correlative rights will throw upon the court a duty impossible of performance, that of apportioning an insufficient supply of water among a large number of users, is largely conjectural. No doubt cases can be imagined where the task would be extremely difficult, but if the rule is the only just one, as we think has been shown, the difficulty in its application in extreme cases is not a sufficient reason for rejecting it and leaving property without any protection from the law.'¹³⁸⁶

The inclusion of this statement in the final paragraphs of the opinion are the best evidence of the strong support that the court had for correlative property right. For not only did it state that the court thought it that the doctrine was the "only just one", it also stated that its support was not constrained by potential difficulties in its application. When all was said and done; although the petitioners had intended to eliminate the correlative rights doctrine, what they succeeded in doing was to facilitate a much more solid legal foundation by allowing the court to rewrite and strengthen the original ruling. All of which has allowed the doctrine to remain valid

³⁸⁴ *Id.*, p 8

³⁸⁵ *Id.*, p 9

³⁸⁶ *Id.*, p 9

for over one hundred years as can be seen in a the more recent case of Niles Sand Co and Gravel v Alameda County Water District.³⁸⁷

As the names suggest Nile Sand and Gravel the plaintiff) was a commercial sand and gravel operation and Alameda County Water District (the defendant) was a government entity charged with managing the water supply in a district that included San Francisco. As part of its water management operations the defendant ran a ground water replenishment program that involved pumping water sourced from outside the district into the Niles water basin of the district. This replenishment program had two objectives. First, it was a water storage operation that would create a large enough reserve of water during the spring to supply the district during the dry summer months. The other objective was to prevent salt water intrusion into the basin, which was possible because to the immediate proximity of the basin to San Francisco Bay, and which would occur if the water basin dropped below sea level.

The conflict arose because this same replenishment program resulted in fresh water flooding the quarries operated by plaintiff which were below sea level. To access these quarries the company installed pumps and which they use to drain the quarries, with the waste water being pumped into San Francisco Bay. This of course defeated both objective of the replenishment program and resulted in the absurd situation where one party was pumping water into the basin and another pumping it out.

The plaintiff sued the defendant asking for damages on the basis that the flooding of their quarries constituted a “taking” or “damage” to their property by a governmental organization for public use, which ought to be compensated by way of inverse condemnation under the Californian constitution.³⁸⁸ The defendant sued to enjoin the plaintiff from discharging and wasting its water and to recover damages from them for the loss of water previously wasted.³⁸⁹

The plaintiff claims rested upon the argument that they had the “absolute right” to use their land to an unlimited depth below the surface, because the Civil code which vested them with: “the right to the surface and to everything permanently situated beneath it”.³⁹⁰ As such that the flooding of the quarries that resulted from the replenishment program had interfered with their subterranean rights to their land, thereby “taking” or “damaging” their property. They further argued that the defendant's claim that their land was subject to a “public servitude for water and conservation purposes” was just a contrived way of creating a new property interest for the benefit of a public agency, which could allow the district to escape liability to the landowners for damages.

Neither the earlier trial court nor the Supreme Court agreed with their “absolute right” argument and instead invoked the “correlative rights doctrine”. The Supreme court confirming application of the correlative rights doctrine and acknowledging the trial courts proper use of it, before restating its original use in *Katz v. Walkinshaw*:

“The correlative rights doctrine was first pronounced in a landmark case (*Katz v. Walkinshaw* (1903) 141 (1903) 141 Cal. 116 [74 P. 766]) in which the Supreme Court, in a decision upon rehearing (see *id.* at p. 120), developed and reiterated the doctrine

³⁸⁷ *Niles Sand & Gravel Co. v. Alameda County Water Dist.* [37 Cal. App. 3d 924] (1974)

³⁸⁸ Article I, section 14 provides: “Private property shall not be taken or damaged for public use without just compensation having been made to ... the owner ...”

³⁸⁹ The draining operation had been going on for three years when the suits were brought.

³⁹⁰ 37 Cal. App 3d Sec 829 provides in full that “The owner of land in fee has the right to the surface and to everything permanently situated beneath or above it.”

as adopted in its original decision. (Id. at pp. 137-138 et seq.) Under the facts presented in *Katz*, the court was called upon to balance the effect of the common law maxim "Cujus est solum, ejus est usque ad inferos," as to waters percolating below ground, against the realities of the underground water situation in California. (Id. at pp. 120-121, 125-128, 139.) Rejecting the maxim under compulsion of the realities (see id. at p. 143; see also Krieger & Banks, *Ground Water Basin Management* (1962) 50 Cal.L.Rev. 56, 72-73) the court held that, as between the owners of land overlying strata of percolating waters, the rights of each to the water are limited, in correlation with those of others, to his "reasonable use" thereof when the water is insufficient to meet the needs of all."³⁹¹

The court then went on to state that;

"The trial court was also correct in using the word "servitude" to connote the obligation imposed by the doctrine upon appellants, as landowners in the basin, to refrain from discharging more than their reasonable share of the underground water therein; the term ("servitude") is commonly used with reference to such obligations when imposed by law, and limiting the use of lands lying in a particular geographical area, where an overriding public interest requires it."

While this case confirms the validity of the correlated rights doctrine some seventy years after it was introduced, it is also notable for three additional reason. First it demonstrates that the doctrine can be applied in cases which involve government agencies and not just applicable in disputes between private land owners. Secondly it indicates that the doctrine is able to withstand a challenge which accused it of being in breach of the California constitution, which like the US Constitution prohibits the government from the taking of property without compensation. Thirdly it indicates that it can be used against mining interests that harm the water supply, not just disproportionate water used. The first makes sense because injuring an entire community is worse than merely injuring a neighbour. The second makes sense because if it is accepted that water below the surface belongs to the surface owner, then all that the correlative rights doctrine does is prevent the appropriation of those rights by neighbouring land owners, as opposed to the appropriation doctrine which facilitated taking of inherently integrated groundwater which belonged to their neighbours. The third makes sense because prioritising mining, over water operations would defeat the purpose of the doctrine.

But it was not only the courts which have supported correlated rights for the last one hundred years. The legislature as provided similar support as evidenced by the administrative law which now regulates the use of water in California. The most recent enunciation of this doctrine being included in the 2011 publication of booklet describing the Water Rights Law which was produced by California State Water Resources Control Board and in which it states:

'California law also recognizes and protects rights to extract and use waters percolating beneath the surface of the land. Again, while the Water Code implies the existence of these groundwater rights, their doctrinal bases and characteristics are essentially the product of the decisions of our courts. (See *Katz v. Walkinshaw* (1902)

³⁹¹ Id. p. 934

141 Cal. 138, 70 Pac. 663; additional opinion on rehearing (1903): 141 Cal. 116, 74 Pac. 766.)³⁹²

6.1.5 Water Law Lessons for Intellectual Property Law

While *Katz v. Walkinshaw* was clearly focused on water rights, it is within the bounds of a more general analysis to observe that the ability of common law to recognize and adapt to an alternative set of underlying circumstances, is the reason why it has been able to retain its relevance. For if common law was to maintain a rigid adherence to precedent, it would be as outdate as the medieval feudal system that it originated in. A medieval system which incidentally was also the formation period for the notion of absolute property rights.

Which is not to suggest that an absolutist/exclusive doctrine is incompatible, with intellectual property law. If anything, this the analysis of Californian water law indicates that it is perfectly reasonable to apply multiple doctrines in the same body of law depending on the individual circumstance of the underlying dispute. As described in this analysis the appropriation doctrine was applied to water on public owned lands, the riparian doctrine to surface water on private land, and the correlative rights doctrine for ground water on private land. This ability to apply multiple doctrines is clearly not limited to water law and could just as easily be recognised in intellectual property law; with an absolutist doctrine continuing to be applied to standalone intellectual properties and the correlated rights doctrine being applied to inherently integrated intellectual properties.

While the primary reason why Californian water law featured so prominently in this analysis is because it the source of the correlated rights doctrine, it is worth noting that the doctrine would not have been created if there was an abundant supply of water in the state. This scarcity meant that a new and more equitable means of dividing up the groundwater needed to be devised, as the use of historical doctrines which were applied in locations where there was not "enough, and as good, left in common for others". The same can be said with intellectual property: Just as in the arid regions of California where there is not an unlimited supply of groundwater which can be extracted, so too intellectual properties there is not an unlimited quantity of technological value which can be extracted from an integrated technological product. Clearly when integrated intellectual property owners take more than their proportional share, they injure other intellectual property owners in the same way that land owners who take more than their proportional share of groundwater injures other land owners.

With respect to ownership structures, it is interesting to note that both water rights and intellectual property rights appear to be on the same evolutionary path, with intellectual property rights lagging far behind water rights. For example, in the early civilisations, both water and innovation could be considered to be free of ownership. Rivers did not belong to anyone and neither did ideas, they were just there available for the use of anyone and everyone. Moving into the medieval civilizations both went to the other extreme coming under sole ownership of the royal persons provided through patronage to their most important or most loyal supporters. It was during this transition that the notion of absolute ownership of those rights was adopted. This royal grant being transformed into an absolute ownership right, when those supporters began to recognise the value of their contributions to the realm. It was likely in the mercantile period that these two evolutionary paths diverged. For while the dramatic increases in the ranks

³⁹² http://www.waterboards.ca.gov/laws_regulations/docs/wrlaws.pdf, p vii

of land owners, required that water rights become responsive to the injuries which could be caused by absolutist rights, the same growth in the ranks of intellectual property owners left unchanged the absolutist rights provided to them. This lack of progress in the development of intellectual property rights for the most part being attributable to the standalone nature of intellectual property which was prevalent at the time. Moving to the modern time, this divergence became even greater as water rights became subject to reasonable use limitations and proportional sharing. Restriction which are still to be fully imposed on intellectual property rights, despite the fact that modern intellectual properties is no longer dominated by standalone intellectual properties and it can be shown that utilizing an absolutist doctrine for correlated intellectual properties results in inequitable outcomes.

This continuity and divergence can also be observed in the consequences which emerge from the stagnated evolution of intellectual property. If it is excepted that early the riparian stages' lack of private water rights was comparable to a time when there were no intellectual property rights, history shows that that most improvement in the waterways and innovation had to come from the state. Obviously if the state was highly committed to the development of either waterways or innovation this could spur growth. However, when the state's commitment is weak, there is no private development which can replace it. This because without a method of recovering their costs private parties would not have the where with all to develop waterway or inventions. So, although the early riparian doctrine and lack of intellectual property rights undoubtedly sustained a certain degree of access, most uses would have been of a rather conventional nature, and development rather slow.

With respect to the absolutist water law, this is somewhat of an anomaly because it is difficult to find a historical situation when one entity declared absolute ownership of all innovations. However, a comparison can be made in individual industries when patent owners try to establish a monopoly in an industry, to the exclusion of others which also have intellectual property used in the industry.³⁹³ When this happens not only is property effectively appropriated from previous owners and accumulated by those monopolistic property holder, but it also may slow development as potential users are excluded from participating.

The appropriation doctrine would appear to be consistent with the absolutist doctrine in intellectual property when standalone properties are involved. In both cases the first use in water and first to file in intellectual property; grants the owner with an exclusive monopoly. The main differences between the two is prior appropriation usually places limits on the quantity of water which can be used and protects that use for an indefinite period, whereas absolutist intellectual property rights have no limits and protected for a defined period. Both monopolies being justified as an incentive to further the development of the society through the expansion of industry, which is undeniably true at least in the short run.

The absolutist riparian doctrine would also appear to consistent with an absolutist intellectual property rights doctrine when correlated intellectual properties are involved. While those rights can and do stimulate development, which is good for societies, in both cases they can also be abused to extort excessive returns from other integrated users. As has been mentioned this abuse almost always involves threatening or pursuing injunctive actions when injury can easily be repaired by damages.

³⁹³ See Chapter 8

Limiting riparian water rights by the reasonable use doctrine would obviously have the same effect as limiting absolutist intellectual property rights by the same doctrine. Given this doctrine has primarily been used to prevent abuse of riparian owners right, which has facilitated a better and more efficient use of water resources, there is no reason why it could not have the same effect on intellectual property. Particularly when correlated intellectual properties are involved. Indeed, this appears to be the path which intellectual property law is advancing down under recent court decisions, which have limited owner's absolute intellectual property rights when the disputes involve correlated properties.

The correlated doctrine in water, which requires that water resources are granted in proportion to surface land ownership, is not just comparable with correlated intellectual property rights but a legal inspiration for those rights. And just as the correlated rights doctrine has ensured that all owners of correlated groundwater can use their proportional share of that ground water, correlated intellectual property rights should ensure that every intellectual property owner who contributes their innovations to an integrated technological product is able to receive their proportional share of the value those aggregated and integrated properties contribute to that product. This doctrine going beyond the reasonable use doctrine because it is capable of a degree of quantification which cannot be reached through abstract and conflicting notions of what is reasonable.

6.2 The Evolution of Correlated Oil and Gas Rights

While the correlative rights doctrine was initially applied in water law it did not take long for it to be recognised that it clearly had implication for other industries, most notably the oil and gas industry. In fact, the potential for its application in the oil and gas industry was so obvious, that it was even mentioned in the decision of *Katz v. Walkinshaw*.

'It does not necessarily follow that a rule for the government of rights in percolating water must also be followed as to underground seepages of percolations of mineral oil. Oil is not extracted for use in agriculture, or upon the land from which is taken, but solely for the sale as an article of merchandise, and for use in commerce and manufactures. The conditions under which oil is found and taken from the earth in this state are in no important particulars different from those present in other countries where it is produced. Whether, in a contest between oil producers concerning the drawing out by one of the oil under the land of another, we should follow the rule adopted by the courts of other oil producing states, or apply a rule better calculated to protect oil not actually developed, is a question not before us, and which need not be considered.'³⁹⁴

It should be acknowledged that despite this attempt to limit the doctrine to groundwater there was no way that such an important and economically relevant doctrine would be ignored by the oil and gas industry. Particularly given the nature of the underlying resource and its ownership structure were virtually identical. Which is to say that in both cases the underlying property was an inherently integrated resource, with multiple owners claiming individual

³⁹⁴ *Katz v. Walkinshaw*, 141 Cal. 116 (Cal. 1903)

property rights to it. The only real difference was that one underground resource was water, while the other was oil and gas.

Like the chapter examining the common law case for correlative water rights, this chapter will commence with a description of the evolution of oil and gas law. This evolution will track not only the administrative rules which created the law, but also the court cases which provided the legal support for those rules. The jurisdictions which will be the focus of this analysis will be the administrative and judicial bodies representing the various states in the United States of America. There are two reasons why the oil and gas in America will be the focus. The first of these is that it was in America where the oil and gas industry was initially and most actively developed, which meant that it was the first country which had to establish administrative rules and laws covering the oil and gas industry. Rules and laws that had to evolve as the scientific knowledge and understanding of origin and physical properties of those oil and gas reservoirs grew. The second reason and more practical reason is that in America, real property owners have both surface and subsurface rights with respect to their property. A situation which has resulted in an abundance of conflicting individual subsurface ownership claims on interrogated oil and gas reservoirs, as these frequently extended beyond any private and public property ownership boundaries.³⁹⁵ After the evolution has been explained there will be a closer examination of the current state of the law and with a few cases to illustrate its effect and effectiveness. The final part of this chapter will be a discussion of the potential lessons which this body of law provides with respect to creating the doctrine of correlative intellectual property rights.

For anyone not directly involved with oil and gas law, it would be easy to assume that this supposed bastion of free enterprise, would follow legal doctrines which would epitomise the free markets principles in a winner take all competitive battle. However, this is not the case. Far from adopting unrestricted free market legal principles, oil and gas law is marked by an extraordinary amount of governmental interference. Interference that is justified based on protecting the public interest, by avoiding waste and destruction of oil and gas reservoirs, protecting the environment and finally ensuring that all property owners receive their fair share of the value ascribed to their ownership claims. However, it was not always this way. In the beginning it was an unrestricted free market industry, where little consideration was given to anything other than getting rich quickly by producing the most oil possible in the shortest period of time. Given the dramatic difference between the initial state of the industry and its current state it is not surprising that the evolution of the legal practices in the industry involved several steps, each defining new legal rules which would be incorporated in oil and gas law. Of these steps there were five that are readily identifiable.

The first identifiable step can be described as the ownership in place rule. This step assumed that oil and gas were like any other natural resource that could be acquired through surface mining and belonged to the property owner where the oil and gas either; percolated to the surface or was accessed by digging shallow pits. Next came the capture rule, which occurred after there was a recognition that oil and gas reservoirs were much larger than initially understood and extended beyond property lines. In this step the law treated oil and gas in a similar manner to the way in which it treated wild animals that moved from one property to

³⁹⁵ Obviously in countries where the subsurface rights to oil and gas are owned by the state institution or royal personage such conflicts do not exist. Which not coincidentally is why most lawyers outside the U.S. have never heard of correlative rights.

another. This legal treatment essentially considered the oil and gas in the ground to be free of ownership, until it was brought to the surface and captured by an oil producer. While this step unleashed free market forces that dramatically increased the production of oil and gas, they also resulted in significant waste of resources and severely damage to the oil and gas reservoirs. It was because of this waste and damage that successive limitations on free market activities were enacted. The first of these limitations created the third identifiable rule which involved restrictions on the wasting of resources, in particular a prohibition on burning off the less valuable natural gas, in order to secure more valuable oil production. The fourth identifiable step was the establishment of regulations designed to prevent overproduction that was damaging the long-term production potential of oil and gas reservoirs. This rule involved limiting production activities in approaches that allowed for a more sustainable development of the oil and gas reservoirs. The final identifiable step involved the imposition of regulations which were focused on ensuring that all property owners received a fair share of the value of the resources whenever they had some sort of ownership rights. This rule was adopted as a consequence of the fourth step which restricted the ability of certain owners to capture any oil and gas from a reservoir, despite having valid claims which would otherwise allow them to do so. While these final regulations were imposed to correct the unjust effects, which resulted from the protective regulations, it ultimately evolved into a fully-fledged correlative rights protection mechanism. A mechanism that dramatically changed the nature of the oil and gas industry by moving it from a win and lose battle between property owners, to a much more equitable form of competition where the property rights of all parties which had legal claim on the reservoirs were protected.

That this correlative rights doctrine has been enacted and supported in fourth-nine of the fifty American States, not only provides evidence of its judicial acceptance, but also provides testament to the general support it receives from participants engaged in the oil and gas industry. A more detailed analysis of these various steps, including the regulation and case law which created them, is as follows.

6.2.1 Ownership in Place Rule.

Although there were several locations in the world where crude oil percolated to the surface, it was in a remote corner of the State of Pennsylvania where the first significant commercialization of this resource took place in 1854. At that time the substance that percolated from the ground was known as “rock oil” in an attempt to differentiate it from vegetable oils and animal fats.³⁹⁶ This differentiation was necessary because before that time the primary use of the substance was medicinal.³⁹⁷ The primitive methods used to gather this rock oil usually involved property owners skimming the substance off a creek and steams or wringing it out of rags or blankets which had been placed in those same creeks and streams. In short this was not a highly industrialised process and bore no resemblance to anything that could be called a modern industry, especially at a time when modern mechanical manufacturing was beginning to dominate most industries.

This lack of industrialization ended after an entrepreneur named George Brissell, hired a Yale Professor named Silliman, to investigate and report on the illumination potential of rock oil.

³⁹⁶ The French called it Petroleum: Petros for Rock, and Leum for oil.

³⁹⁷ Medicinal rock oil sold using the name “Seneca Oil” was said to relieve everything from; headaches, toothaches, stomach aches, rheumatism and deafness.

What Silliman discovered in 1855 was that with the use of a distillation process, crude petroleum could be broken down into a several fractions of carbon and hydrogen, one of which provided a very high-quality illumination oil. Armed with this report Brissell was able to secure investors and set up the Pennsylvania Rock Oil Company, the world's first commercial oil drilling and production company. After two years of disputes and indecision, the company eventually hired "Colonel" Edwin Drake as their general agent or project manager.³⁹⁸ In the fall of 1857, Drake was dispatched to Titusville, Pennsylvania, to secure oil rights from local farmers and returned the following year to commence operation.³⁹⁹ The extraction method used in this initial operation were adapted from an ancient Chinese process of salt boring. Although it was called drilling, this technique was more mining than it was drilling. The technique involved lifting and dropping a large, heavy rod to break up the ground, which was then removed by manual labour. Over time, as the workers removed the broken rock, this would create a mine shaft. The objective being to dig a shaft which was deep enough, to create a well where the crude petroleum could accumulate. A well not that dissimilar to a conventional water well although certainly deeper. Once built, the liquid oil would be taken to the surface using buckets or basic hand pumps.

Drake set up operations around two miles downstream from Titusville, on a farm that contained an oil spring which was producing about three gallons a day naturally. However, when they got to a depth of 16 feet the sides of the shaft started to collapse. To overcome this obstacle, Blake came up with the ingenious idea of using a cast iron pipe as a housing to protect the side of the shaft from collapse. The drilling tools being lowered down inside the pipe to continue the rock crushing operations, with the pipe being driven down to greater depths to keep the sides of the shaft from collapsing. Using this new method Drake was able to dig down to a depth of 32 feet, where they finally hit bedrock. Bedrock that turned out to be capstone for an underground oil reservoir. After pounding through an additional 35 feet of bedrock, they finally broke through a crevice in the stone which allowed the crude oil in the reservoir to seep into the well. For all intense and purposes this was the first time that anyone ever "struck oil".

Whilst the drilling operations developed by Drake was rather innovative, the law that pertained to the early oil and gas industry was not. In fact, it was drawn straight from old common law principles related to hard mineral mining. That law being best described by the Latin maxim, "*Cuius est solum eius est usque ad coelum*" which is intended to convey the message that a property owner owns not only the surface of the land, but everything above or below it. The principle was established in common law by Edward Coke in *Bury v. Pope* (1587), when he enunciated the principle as follows;

'And lastly, the earth hath in law a great extent upwards, not only of water as hath been said, but of aire, and all other things even up to heaven, for *cujus est solum ejus est usque ad coelum*, as it is holden.'⁴⁰⁰

³⁹⁸ Edwin Drake was not a "Colonel", investors started and perpetuated this title in order to enhance Blake's credibility with the backwoods farming community.

³⁹⁹ When Drake returned to Titusville he was the general agent for "Seneca Oil" which was a new company setup by the investors.

⁴⁰⁰ *Bury v. Pope*, *Cro. Eliz.* 118 [78 Eng. Rep. 375] (1587), reporter's note

This common law tradition being strengthened in America by adoption of the Blackstone Commentaries on English Common law, as part of the foundations for American common law. In those commentaries, Blackstone describes property rights as follows;

'Land hath also, in its legal signification, an indefinite extent, upwards as well as downwards. *Cujus est solum, ejus est usque ad coelum*, is the maxim of the law, upwards; therefore no man may erect any building, or the like, to overhang another's land: and, downwards, whatever is in a direct line between the surface of any land, and the center of the earth, belongs to the owner of the surface; as is every day's experience in the mining countries. So that the word "land" includes not only the face of the earth, but everything under it, or over it. And therefore if a man grants all his lands, he grants thereby all his mines of metal and other fossils, his woods, his waters, and his houses, as well as his fields and meadows.'⁴⁰¹

With respect to petroleum resources one of the first cases to enunciate this principle was the 1862 case of *Keir v. Peterson*.⁴⁰² In that case Peterson leased land to Kier for the purpose of manufacturing salt. After commencing operations Kier discovered that there were certain quantities oil mixed in with salt water brine that he was using. He separated this oil out and commenced selling it as an unexpected product of the salt extraction process. Peterson filed suit, claiming that the oil Kier recovered was his property. Whilst the court ruled in favour of Kier, it did so only because it felt that Peterson had severed his ownership of the oil rights when he agreed to the salt lease.⁴⁰³ However as far as the petroleum rights of surface owner were concerned the court was unequivocal in its the opinion, stated by Justice Woodward as follows;

'Petroleum ... is included in the very comprehensive idea which the law attaches to the word land. It is part of the land. It is land. As such it belonged to Peterson, in the place where the present dispute arose. He held it by the same title by which he held the surface, or the salt which underlay the surface.'⁴⁰⁴

Given this general principle it can be said that under common law ownership of the surface provided the best *Prima Facie* title to the ownership of the minerals below. Although this ownership could and was limited by legislation. The earliest example of limitations by legislation would be the original State Charters which reserved for the Crown an interest in all gold and silver mines established in the colonies, the so called "royal mine". Later examples of this reservation being found in the various settlement acts granting farming rights to frontier settlers.⁴⁰⁵ Failing such reservations common law would automatically ascribe mineral ownership to the surface owner, which is exactly what the situation was in Pennsylvania in 1855.

⁴⁰¹ Blackstone, *Commentaries*, (1765-69), Book 2, Chapter 2, p 18

⁴⁰² *Kier v. Peterson*, 41 Pa. 357 (1862)

⁴⁰³ *Id.* at 363. Justice Woodward, opined that because the raising of petroleum and salt were linked inextricably Kier was to owner of the oil. His logic being as follows; "The severance of the petroleum was an inevitable incident of their exercise of clearly granted rights. The grant of the right to take salt was the grant of all incidental rights which were indispensable to the exercise of the main one. Hence, their severance of the petroleum from the freehold, and their possession of it, were lawful."

⁴⁰⁴ *Id.* at 362.

⁴⁰⁵ The Donation Land Claim Act, 1850, Sec 5, "That no mineral lands shall be located or granted under the provisions of this act."

The absence of a legislative reservation in favour of the state meant that; the subsoil oil and gas reservoirs were considered to be the property of the surface owner.

It was as a result of this ownership structure that most of the local farmers who owned property near Drake's first well had *ownership in place* rights to oil that was located under their property and it was these rights that they immediately leased out to oil companies to secure oil royalties for themselves. For the oil industry, it was like a gold rush. Within fifteen months of the discovery, hundreds of wells were drilled in the Oil Creek valley, and over seventy-five of them were producing oil. The fever pitch at which this oil boom progressed was also seen in neighbouring towns.

In 1864, at a place called Pithole Creek, a location just fifteen miles away from Titusville, a "wildcat"⁴⁰⁶ oil company named The United States Petroleum Company bought an oil lease on part of the Holmden farm. After drilling for a year, they finally struck oil in January of 1865. By June they had four well producing two thousand barrels a day. This unprecedented rate of production generated so much excitement that other wildcat oil companies were willing to pay unheard of prices to secure drilling right, with the rest of the Holmden farm being leased for \$2 million dollars.⁴⁰⁷ By August the combined production of the Pit Creek wells was in excess of six thousand barrels per day. As a result of this production boom the backwoods farm had turned into a bustling city of 60,000 people.⁴⁰⁸ As far as this city and the surrounding community were concerned, the oil industry appeared to be working miracles.

While Pithole story provides an excellent example of how the oil industry expanded under a legal structure based on established mining law, it also provides a cautionary tale about what can happens when oil resources are not protected from free market excesses and as a result are exploited too rapidly. Within two years after the first well was sunk, and after some 4 million barrels of oil extracted, the oil abruptly stopped flowing. While it was not known at the time, there were likely two major reason why the oil stopped flowing. First: too many wells had been drilled on the site and as a result the internal oil field pressure of the reservoir was lost. Second: on the 2nd of August 1866, one US Petroleum's main wells caught fire and that fire consumed a further 27 wells and rigs, all of which resulted in an untold burn of oil and gas as well as a massive depletion of oil field pressure from the underground reservoir.

Regardless of the scientific explanation, as far as the oil men in Pithole were concerned the conclusions were as obvious as they were simple; the oil had run out and it was time to move on. This was calamity for the city and the thousands of people who had built businesses or migrated there in search of work. By 1868 almost everyone left, the city was all but abandoned and property values plummeted. While it is undeniable that fortunes were made in Pithole,⁴⁰⁹ for most of the population it was a financial disaster. Not only were there too many wells, most of which never provided any return to their investors, there was also the excessive investment made in the city, which went to waste when the city was abandoned.⁴¹⁰ In addition to financial

⁴⁰⁶ Wildcat oil companies were those companies that had no ongoing business but rather were speculative enterprises set up for the sole purpose of buying and drilling oil wells in the hope of finding enough oil to make the investors rich. Of the thousands of wildcat companies that were established during the early boom years only a handful were ever able to provide the promised returns to their investors.

⁴⁰⁷ NY Times "The Rise and Fall of Pithole" Dec 24, 1879

⁴⁰⁸ This made Pithole the third largest city in Pennsylvania after Pittsburgh and Philadelphia.

⁴⁰⁹ Andrew Carnegie, Thomas Mellon, and John D. Rockefeller all added to their wealth in Pithole.

⁴¹⁰ A curious side note is that John Wilkes Booth was one of the thousands who came to Pithole to make his fortune. With other investors he set up *Fuller Farm Oil Company*, a company that unfortunately destroyed its only producing well by using too much explosives. Although Booth was a known Confederate sympathiser, it is worth considering

losses there were also the question of the lost oil which could have been captured, if the internal oil pressure had not been wasted. Not to mention the pollution from the operations that destroyed the area's farming potential.⁴¹¹ All of which should have generated at least a modicum of cautious consideration by the parties involved in the industry. However, this was not the case, for regardless of the perils that this first oil boom and bust exposed, any lessons on how to avoid those perils were ignored for decades by the oil men, politicians and the judiciary.

While the lessons on the perils were ignored, this does not mean that those lessons were not learned. The lesson that the oil men learned was that whenever an oil reservoir was found the best strategy was to immediately drill as many wells as possible and extract as much oil as possible, before the oil runs out. This was of course a totally understandable profit maximising policy to adopt when there was little scientific knowledge about the makeup of the underground oil and gas formations. The rationale of this strategy being derived from the assumption, that wherever one source of oil is found, there may be many other sources of oil that can be found. Much like the idea that wherever one wild animal is found others might be found. The animal analogy reflecting the reality of the exploitation of the wild bison found on the great plains. For just as the first hunters on the plains had to maximise their hunting rewards before the stock of bison were wiped out, those that got to oil area first had to find and exploit all the pools of oil in a neighbourhood before their competitors found and exploited them.

6.2.2 The First to Capture Rule

Once it became common knowledge that wells located in close proximity to each other were producing oil from the same integrated oil and gas reservoir, it was only logical that the competition for the oil would become a zero-sum game focused on who could recover the highest percentage of oil contained in the reservoir for themselves. The problem was that this form of competition did not fit easily with the "*ownership in place*" laws that initially governed the oil and gas industry. Under those laws the surface owners had ownership of all the minerals that were located under their land, which meant that any oil and gas under a surface owners land must belong to the surface owner. While this form of law may have been effective for hard minerals which remained in a stationary place until they were mined, it was impractical for fluid resource like oil and gas that could move from one location to another within the larger reservoir. Movement that would be induced by the extraction of oil in any part of the reservoir, which would create a low-pressure area into which oil and gas located in surrounding high-pressure area would automatically flow or seep.

After it was recognised that that oil and gas could move, it was soon accepted that the "*ownership in place*" law were an obsolete and unworkable way of determining ownership. Obsolete because it is a legal doctrine designed for stationary resources. Unworkable because it created irreconcilable separate ownership claims between neighbouring surface owners. The rights of an initial surface owners being directly in conflict with the rights of other surface owners after the oil and gas had moved. Indeed, it was just this sort of dispute that forced the courts to

whether he would have assassinated Lincoln if his wildcat operations had been successful, and he had not lost much of his wealth as a result of the failed venture.

⁴¹¹ It was perhaps because of this pollution that the Holmdem farm was bought for a meagre \$4.37 when it was sold at auctioned in 1878.

abandon “ownership in place” and adopt a new doctrine which is referred to as the “Pure Capture Rule”.

An irony associated with the movement of oil and gas, is that it only occurs when there is an outside disturbance and it stay in one place for hundreds of thousands, if not millions of years, when undisturbed. As such it can be stated that it is the active disturbance of the reservoir by human forces that created the movement. Putting this movement into context with the hard rock mining laws, such disturbances would be the equivalent of one property owner digging a pit on his property which is so close the border with his neighbour’s property, that the minerals on the neighbour’s property fall into his pit. Under most hard rock mining law this type of action at the very least be considered a tort, as it caused damage to the neighbour’s property,⁴¹² and may have even be considered a criminal act of theft because of the intentional appropriation of the neighbours’ property through active and deliberate human agency. The philosophy of these actions reflecting the notion that such a wrongdoer would not be permitted to make a profit from his own wrong. However, under the new “*pure capture rule*” not only would such appropriations be legalized, they were actively encouraged. Whether the courts really understood that they were encouraging this unjust appropriation is unclear. Regardless of whether this was the intent, it certainly was the result.

The seminal case that established the “Pure Capture Rule” was the 1889 Supreme Court of Pennsylvania decision in *Westmoreland & Cambria Natural Gas Co. V. De Witt*.⁴¹³

This case involved a surface landowner named John Brown who executed an oil and gas lease for approximately 140 acres of his land. Included in the lease was a clause that prohibited the lessee from drilling within 300 yards of buildings on the farm. This lease was eventually assigned to Westmoreland Natural Gas Company, which drilled a well into the gas-bearing strata. However rather than extracting gas from the well, Westmoreland shut the well in by closing the valves at the surface. The purported rational behind this action was to hold the well in reserve in the event one of the company’s other wells experienced failure or low production. Because the well was shut in Brown received no royalties, a situation which Brown was not willing to accept. To remedy this situation Brown ordered Westmoreland off his land and claimed a forfeiture of the lease due to Westmoreland’s failure to make certain payments. He also provided a new lease with DeWitt to drill on the same property. These allegations were disputed by Brown who claimed that the new lease was not for the same property as it provided a licence for drilling within 300 yards of his farm buildings, an area excluded by the earlier lease. Westmoreland filed suit to prevent the second company from drilling a well.

In its decision the court decided that Brown had leased all his oil and gas rights to Westmoreland and therefore could not lease them to Dewitt.⁴¹⁴ This lease dispute resolution was however dramatically overshadowed by the courts pronouncement of a new legal doctrine

⁴¹² *Edwards v. Sims* Court of Appeals of Kentucky, 265 Ky. 818, 96 S.W.2d 1028 (1936), p 238 “Clearly, the unjust enrichment of the wrongdoer is the gist of the right to bring an action ex contractu”

⁴¹³ *Westmoreland & Cambria Natural Gas Co. v. Dewitt* 18 A. 724 (Pa. 1889)

⁴¹⁴ *Id.* at 724 “We have to consider whether the well threatened to be put down was upon the land leased to the plaintiff. Of this there cannot be the slightest doubt. The lease is of ‘all that certain tract of land,’ etc. This means the whole tract. The grant is limited as to use, ‘for the sole and only purpose of drilling and operating wells.’ but it is not limited as to territory. ... The well which the respondents propose to bore is within the prohibited distance, and they claim that Brown, the landlord, and they, as his lessees, have the right to drill wells within that part of the territory. But the clause in question is neither a reservation nor an exception as to the land, but a limitation as to the privilege granted. It does not in any way diminish the area of the land leased; that is still the whole tract; but it restricts the operation of the lessee in putting down wells to the portions outside of the prohibited”

which was to be applied to oil and gas industry, the “rule of capture”. The reasons for elucidating this rule in a case that was primarily about a leasing agreement are unclear. But it was likely because the Pennsylvania Supreme Court knew it would have to address the ever-growing number ownership disputes which were occurring in the rapidly developing oil and gas industry and this was the first case that allowed them to do so. As such in its decision it included the following declarations on oil and gas ownership;

'The learned master says gas is a mineral, and while *in situ* is part of the land, and therefore possession of the land is possession of the gas. But this deduction must be made with some qualifications. Gas, it is true, is a mineral; but it is a mineral with peculiar attributes, which require the application of precedents arising out of ordinary mineral rights, with much more careful consideration of the principles involved than of the mere decisions.... Water and oil, and still more strongly gas, may be classed by themselves, if the analogy be not too fanciful, as minerals *feroe naturae*. In common with animals, and unlike other minerals, they have the power and the tendency to escape without the volition of the owner. They belong to the owner of the land, and are part of it, so long as they are on or in it, and are subject to his control; but when they escape, and go into other land, or come under another's control, the title of the former owner is gone. Possession of the land, therefore, is not necessarily possession of the gas.'⁴¹⁵

As can be appreciated from reading this ruling, the court was clearly and dramatically changing the common law treatment of oil and gas rights. Under this ruling any claim the surface owner had to oil and gas under their land was lost the moment that it left his property. The implication of this were that surface owners would have no legal recourse when oil and gas were siphoned out from underneath their property by their neighbours. This principle was endorsed by the U.S. Supreme Court in *Brown v. Spilman*,⁴¹⁶ wherein the Court stated;

'Petroleum gas and oil are substances of a peculiar character, and decisions in ordinary cases of mining, for coal and other minerals which have a fixed *situs*, cannot be applied to contracts concerning them without some qualifications. They belong to the owner of the land, and are part of it, so long as they are on it or in it or subject to his control; but when they escape and go into other land, or come under another's control, the title of the former owner is gone. If an adjoining owner drills his own land, and taps a deposit of oil or gas, extending under his neighbor's field, so that it comes into his well, it becomes his property.'⁴¹⁷

As far as the oil and gas industry was concerned, this ruling legalised the aggressive behaviour that they had already adopted. By making the ownership of oil and gas resources contingent on the capture of those resources, it encouraged an even more feverish pursuit of the finite resources in any given oil and gas reservoir.

As far as surface owners were concerned, this decision put them at the mercy of the oil companies. For when oil was found in their neighbourhood they would have to immediately

⁴¹⁵ *Id.* at 725

⁴¹⁶ *Brown v. Spilman*, 155 U.S. 665, 669-70 (1895)

⁴¹⁷ *Id.* at 669-70 (citing *Brown v. Vandergrift*, 80 Pa. St. 142 (1875); *Westmoreland & C. Nat. Gas Co. v. De Witt*, 18 A, 174 (1889)).

license out drilling rights to their property or risk having the oil and gas siphoned away by oil companies operating on their neighbour's property. Unsurprisingly the oil companies used the threat of this potential loss as a tool to minimise the amount of the royalties they were willing to pay for the leases. A threat that could be easily visualised by drilling wells near the border of the threatened landowner. It was by using this threat that many oil companies were able to acquire oil and gas licenses for a fraction of their true value.⁴¹⁸ In the most abusive cases, once an oil and gas company got a license from all the surrounding farms, they would only drill and produce from the property from which they could pay the lowest royalties. An action that bears a striking similarity to the action that *Westmoreland* chose to take when they shut in the wells on Browns farm and which was retroactively sanctioned Pennsylvania Supreme Court.

It should be noted that providing the oil companies with the tools to inequitably enrich themselves was not the objective, but rather an unintended consequence for the early cases.⁴¹⁹ For those early courts the primary objective of the *capture rule* was to provide a new practical method of deciding ownership of this mysterious and mobile resource. It should be remembered that adoption of this rule took place years before there existed any reliable way of determining how much oil was under individual piece of property. So even if the court wanted to maintain the previous rule of *ownership on place* this was not possible, as there was no way of knowing how much oil and gas was in any given place. It was because of this lack of knowledge that the court had to develop a new method, and what better method for determining ownership could be found than absolute possession.

Although the consequence of the capture rule may have been unintended, this does not mean that they were not litigated. After the adoption of the capture rule there would have been many instances where disputes arose which as a result of oil and gas being siphoned across borders. During the first decade the court's response to these disputes was to uphold the capture rule and recommended that the injured parties engage in defensive drilling which soon became known as the offset drilling rule. The case usually credited with advocating this rule is the 1897 Ohio Supreme Court case of *Kelley v. Ohio Oil Co.*⁴²⁰ In that case the plaintiff was a lessee who sought to enjoin the defendant from drilling twenty-five feet from a property line separating the two. Plaintiff asserted that this particular oil bearing sand would allow for the movement of oil for a distance of at least 200-250 feet any well should be at least the same distance from the border.⁴²¹ The plaintiff further asserted that defendant placed its well with the malicious intent to injure by draining oil from underneath the plaintiffs land.⁴²² The court ruled that the action of the defendant was not one of malicious intent but one which one which adhered to the capture rule. In its ruling it stated;

'Petroleum oil is a mineral, and while in the earth it is part of the realty, and should it move from place to place by percolation or otherwise, it forms part of that tract of land in which it tarries for the time being, and if it moves to the next adjoining tract, it

⁴¹⁸ See Pithill Creek description, where the Holmden farm was leased for \$2 million but at \$10 per barrel the oil the value of the oil was taken out of the ground was worth \$40 million.

⁴¹⁹ The same cannot be said of many later administrative decisions and court rulings, where there was a decidedly corrupt intention on the part those that oversaw the oil and gas industry. The most obvious example of this corruption was the "Spindle Top Scandal" which is discussed below.

⁴²⁰ *Kelley v. Ohio Oil Co.*, 49 N.E. 399 (Ohio 1897)

⁴²¹ *Id.* at 400

⁴²² *Id.*

becomes part and parcel of that tract; and it forms part of some tract, until it reaches a well and is raised to the surface, and then for the first time it becomes the subject of distinct ownership separate from the realty, and becomes personal property.⁴²³

It further stated that:

'The right to acquire, enjoy and own property carries with it the right to use it as the owner pleases, so long as such use does not interfere with the legal rights of others'⁴²⁴, while at the same time explaining that the owners legal rights as 'the right to drill and produce oil on one's own land is absolute, and cannot be supervised or controlled by a court or an adjoining landowner',⁴²⁵

In terms of addressing the actual dispute the court stated that and that the sole remedy afforded to neighbours which own property over a common supply was; 'drilling wells on both sides of such a line',⁴²⁶ and that this provides an 'ample and sufficient remedy' which precludes the need for injunctive relief.⁴²⁷ Of course, this remedy did nothing to lessen the dependency of the surface owners on the oil companies. By advancing the offset drilling rule, the court was saying to surface owners; that if they want to receive any rewards for the oil and gas that may be under their property, their only option was to reach an agreement with an oil company to drill and produce as quickly as possible. All of which dramatically strengthened the bargaining position of oil industry relative to the property owners.

While the adoption of a capture rule may have harmed the bargaining position of surface property owners, it did provide an ideal legal structure for overall advancement of the oil and gas industry. Unconstrained by ownership disputes, the full force of unrestricted capitalism would produce one of the most remarkable expansion of an industry the world had ever seen. Across the nation and throughout the world the search for oil and gas became a rush. A rush that was bigger and would produce more wealth than any gold rush ever did. However, there was a negative side to that rush. In the haste to find and produce oil, waste became rampant. The major sources of this waste can be divided into three categories. First there was the outright destruction of resources, which usually involved the burning of the less valuable gas resources in an effort to capture more valuable oil resources. The second was the of waste resulted from over investment in redundant infrastructure which greatly increased the total cost of bringing the resources to the surface. And the third involved the damage that was done to the reservoirs when excessive drilling caused the premature loss of internal pressure making it more difficult to bring the oil and gas to the surface. Although early courts did not know about the third form of waste, they were clearly aware of and usually indifferent to the first two. The offside drilling rule being evidence of their lack of concern for over investment.

As far as the first source of waste is concerned the courts acceptance of this was demonstrated in the 1893 Pennsylvanian appeal court ruling in *Hague v Wheeler*.⁴²⁸ In that case there were three parties which had legal access to the same oil and gas reservoir. All three had

⁴²³ *Id.*

⁴²⁴ *Id.* at 401

⁴²⁵ *Id.*

⁴²⁶ *Id.*

⁴²⁷ *Id.*

⁴²⁸ *Hague v Wheeler*, 27 A. 714 (Pa. 1893)

drilled wells and started production, however only two of them had a market for the gas that was being produced from the wells. The third party who did not have a buyer for gas simply let the gas escape into the air or burned it off in a process called flaring, in order to maintain its oil production. It was also alleged that the defendant simply abandoned wells that stopped producing oil, rather than capping them which would help to preserve the internal pressure of the reservoir. The plaintiff contended that because of the defendant's action the common reservoir was being wasted and so sought an injunction that would prohibit the defendant from continuing these wasteful practices. In making its decision the appeal court first ruled that the third producer was not flaring the gas out of malicious intent⁴²⁹ and that as the rule of capture provided the defendant with absolute ownership of any gas that it brought to the surface, they could do whatever it wanted to do with their property, including destroying it through flaring.⁴³⁰

While this case is considered the pinnacle of an absolutist interpretation of the capture rule,⁴³¹ it did not start or end that way, and there is every reason to interpret in a quite different manner. For not only did this case first raise the possibility of correlative rights in oil and gas, it also represents a clearly identifiable plea by the court; for legislators to make new laws that would limit the destructive effects of the rule of capture. The possibility of correlative rights being introduced in the lower trial court and the pleas for new laws being made by the appeal Court.

As to the introduction of the concept of correlative property rights; this took place in at the lower trial court which granted the injunction the plaintiffs were requesting. An important aspect of the ruling was that it adapted water law to make new oil and gas law, thus representing an understanding that doctrines in one body of law can be transferred into another body of law; when relevant. These correlative principles being drawn from an article written by Judge Cooley in the Southern Law review the described water law as follows;

'These waters belong to no one until they are collected and they may be appropriated by the one who collects and puts them to use. But though neither proprietor has such right in or control over the water as will enable him to complain of his neighbor's appropriation, does not each owe to the other certain duties of good neighborhood, among which is the duty to abstain from purposely withdrawing the water that may be useful to both, when a use of it is not intended?'⁴³²

The trial court then proceeded to establish the thesis that the rights of adjoining owners of oil and gas were not absolute and independent but qualified and correlative.

'These valuable products are obtainable only in connection with the ownership of land and for many purposes are to be regarded as minerals, and as constituting an integral portion of the land itself. ... But they are not, like coal and iron ore, fixed in their place in the rocks, so that the owner may know his own, protract his lines downwards to mark his boundaries, and take them when he pleases. As water percolates by untraceable rills through the gravel, so these 'minerals ferae naturae,' as

⁴²⁹ *Id.* at 719

⁴³⁰ *Id.* at 720

⁴³¹ Bruce M, Kramer, Owen L. Anderson, *The Rule of Capture- An Oil and Gas Perspective*, (2005); "This "pure" form of capture reached its peak in 1893 in *Hague v. Wheeler*."

⁴³² *Id.* at 716

they have been aptly called in a recent case, permeate the porous rocks deep in the bowels of the earth, and rush to the surface through any opening made through the impervious cap by which the basin which contains them is sealed. No landowner gets through his wells oil or gas exclusively from his own land; that which saturates his rocks may be lawfully taken by his neighbour through wells on his land, tapping the common reservoir. *From the very nature of the case the right of each owner is qualified. It is common to all whose land overlies the basin, and each must of necessity exercise his right with some regard to the rights of the others.* [Italics added] ... The same considerations of natural justice which place limits on the use of waters to their usufruct, must of necessity impose qualifications upon the enjoyment of all right of property, which, from the nature of the things possessed, many must enjoy together

⁴³³

While this opinion was overturned, the intelligence and foresight demonstrated it indicates just how close Pennsylvania came to adopting a more progressive line of reasoning in the early development of oil and gas law. A line of which would be almost universally adopted by all jurisdictions some sixty years later.⁴³⁴

While the appellant court could have adopted the trial courts verdict, it instead chose to reiterate the “capture rule” while simultaneously and ironically attempting to reinforce that rule’s validity by claiming it was based on the absolutist “*Cujus est solum rule*,” it had replaced. Although the court acknowledged that “oil and gas are unlike solid minerals, since they may move through the interstitial spaces or crevices in the sand rocks,” it held that “the owner of the surface is an owner downward to the centre. ... His dominion is, upon general principles, as absolute over the fluid as the solid minerals”⁴³⁵ While the verdict obviously ignored the fact that it was the intentional disturbance of the surface owner that caused the movement, the complete ruling did not. To this point the court added a statement to the ruling which can only be regarded as a plea for the Pennsylvania legislature to amend its oil and gas law to prevent the needless waste of gas resources that this case embodied. That statement, which the offer a glimmer of hope for those that were concerned about the waste in the industry was as follows;

'In the disposition he [the third producer] may make of it [gas] he is subject to two limitations: he must not disregard his obligations to the public, he must not disregard his neighbour's rights. If he uses his product in such a manner as to violate any rule of public policy or any positive provision of the written law, he brings himself within the reach of the courts. If the use he makes of his own, or its waste, is injurious to the property or the health of others, such use or waste may be restrained, or damages recovered therefore; but, subject to these limitations, his power as an owner is absolute, *until the legislature shall, in the interest of the public as consumers, restrict and regulate it by statute.*'[italics added]⁴³⁶

⁴³³ *Id.* at 332-333, 716-717.

⁴³⁴ The legislatures of all but one of the oil and gas producing states have enacted statutes making waste of gas unlawful. Only Montana maintains legislation which provides unqualified individual's right to extract and use the oil and gas beneath his surface in any manner they choose.

⁴³⁵ *Id.* at 341, at 719.

⁴³⁶ *Id.* at 720.

In doing so the court was basically providing an open invitation for the Pennsylvania Legislature to formulate new laws to protect against the waste and abuse engendered by the “pure capture rule”. An invitation that reflected judicial support for legislation that was enacted in the State of Indiana shortly thereafter.

6.2.3 Waste Limitation Rules

The first legislations regulating the oil and gas industry mainly dealt with safety issues which were fairly uniformly upheld against due process challenges.⁴³⁷ Given the successful defence of these regulations, it is hardly surprising that concerned legislatures would attempt to expand these regulations to restrict the waste of resources that was inflicting the industry. A waste of resources that the both public, and judiciary were asking the legislatures to address. The first State to do this was the State of Indiana, when in 1893 it enacted the Indiana Code § 46-306. The title, preamble, and first and fourth section of a law enacted in 1893 by the state of Indiana were as follows:

'An Act Concerning the Sinking, Safety, Maintenance, Use, and Operation of Natural Gas and Oil Wells, Prescribing Penalties and Declaring an Emergency.

Whereas, great danger to life and injury to persons and property is liable to result from the improper, unsafe, and negligent sinking, maintenance, use, and operation of natural gas and oil wells; therefore,

Sec. 1. Be it enacted by the general assembly of the state of Indiana, That it shall be unlawful for any person, firm, or corporation having possession or control of any natural gas or oil well, whether as a contractor, owner, lessee, agent, or manager, to allow or permit the flow of gas or oil from any such well to escape into the open air without being confined within such well or proper pipes or other safe receptacle, for a longer period than two (2) days next after gas or oil shall have been struck in such well. And thereafter all such gas or oil shall be safely and securely confined in such well, pipes, or other safe and proper receptacles...

Sec. 4. Whenever any person or corporation in possession or control of any well in which natural gas or oil has been found shall fail to comply with the provisions of this act, any person or corporation lawfully in possession of lands situate adjacent to or in the vicinity or neighborhood of such well may enter upon the lands upon which such well is situate, and take possession of such well from which gas or oil is allowed to escape in violation of the provisions of § 1 of this act, and pack and tube such well, and shut in and secure the flow of gas or oil, and maintain a civil action in any court of competent jurisdiction in this state against the owner, lessee, agent, or manager

⁴³⁷ See e.g.; *Jamieson v. Indiana Natural Gas & Oil Co.*, 28 N.E.76 (Ind. 1891), Which upheld a 1891 statute prohibiting transportation of natural gas through pipelines at a greater pressure than 300 pounds per square inch (psi)); *Manufacturers' Gas & Oil Co. v. Indiana Natural Gas & Oil Co.*, 58 N.E. 851 (Ind. 1900) Which stated that the 1891 statute at issue in *Jamieson* "was sustained upon the ground that natural gas is an inflammable, explosive, and dangerous substance, and that the enactment of the statute in question was a reasonable exercise of the police power of the State for the protection of the persons and property of its inhabitants".

of said well, and each of them jointly and severally, to recover the cost and expense of such tubing and packing, together with attorneys' fees and costs of suit."⁴³⁸

Although the preamble attempts to present this regulation as a safety provision its lack of reference to other safety matters would appear to indicate that safety was in essence a technicality which could be used to justify enacting waste prevention measure for the oil and gas industry. As could be expected, and like previous safety regulations, these were quickly to be challenged by the oil and gas companies which believed that the "pure capture rule" provided them with an absolute right to do whatever they pleased with the oil and gas that they brought to the surface. While there was an earlier case,⁴³⁹ the U.S. Supreme Court decision in *Ohio Oil Co. v. Indiana* (1897)⁴⁴⁰ was really the case that established a new precedent in support of such regulatory restrictions.

The facts in the case of *Ohio Oil Co.* were relatively straightforward. *Ohio Oil Company* was a corporation organized under the Ohio State laws which was authorized to carry out business in the State of Indiana. The corporation had an oil lease on land above and part of;

'a large subterranean deposit of natural gas, occupying a reservoir of large extent, with well-defined boundaries, and utilized for fuel and light by the people of those counties and many other counties and cities of Indiana, including Indianapolis, Fort Wayne, Richmond, Logansport, Anderson, Muncie, Marion, Kokomo, and others of the most populous cities of said state, to which cities said gas is conducted, after being brought to the surface of the earth, through pipes and conduits, by means of which many hundreds of thousands of the people of the state of Indiana are now, and have been for more than ten years last past, continuously supplied with gas for light and fuel; that said natural gas underlying the counties aforesaid and other portions of the state is contained in and percolates freely through a stratum of rock known as Trenton rock, comprising a vast reservoir in which the gas is confined under great pressure, and from which it escapes, when it is permitted to do so, with great force.'⁴⁴¹

In May of 1897 *Ohio Oil Co.* drilled a number of wells on its lease which produced a combination of oil and gas in large quantities. However; instead of containing the gas as required by section 1 of the regulations, they allowed the gas to flow into the open air. They did this because while they could sell the oil, they had no market for the gas and the cost of capturing it would greatly reduce the profits that they made from the oil. After a period of nine months in which the defendant vented an unknown but significant quantity of gas, the States Attorney General applied for, and was granted in the lower courts an injunction which forced the defendant to comply with the regulation. While the company admitted that they were not in compliance, they challenged the lower court ruling by challenging the validity of the regulation. Claiming it constituted an unlawful taking of private property, which was prohibited under the Fourteenth Amendment to the Constitution.⁴⁴² It was this alleged breach of the 14th Amendment

⁴³⁸ Ind. Code Ann § 406-306 (1894), p 300

⁴³⁹ *Townsend v. State*, 147 Ind. 624, 37 L.R.A. 294, 49 N.E. 14

⁴⁴⁰ *Ohio Oil Co. v. Indiana* - 177 U.S. 190 (1900)

⁴⁴¹ *Id.* p 201

⁴⁴² U.S. Constitution, 14th Amendment, Section 1. "All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall

which became the primary focus of the court, which stated that the issue at question was as follows;

'Did the enforcement of the first section of the statute produce as to the persons whose obedience to its commands were coerced by injunction, a taking of private property without adequate compensation; that is, did the execution of the statute amount to a denial of due process of law contrary to the provisions of the Fourteenth Amendment to the Constitution of the United States?'⁴⁴³

An extremely revealing aspect of the State's complaint against the defendant is that there is no mention of safety issues, even though the regulation was issued under the pretext of protecting public safety. Instead the complaint focuses on providing a description of how much money and resources the communities and the State had invested in the infrastructure necessary to utilize the gas reservoirs for lighting and fuel purposes, how important the gas was to the overall welfare of the state and request to prohibit the defendant's wasteful behaviour as it was threatening the common source of gas.⁴⁴⁴ All of which makes this complaint more of a plea for fairness or equity, rather than a question about the validity of a safety regulation.

From the defendant's side, they argued that because they were venting the gas in area which was removed from populated areas there was no safety threat. They further asserted that because the "capture rule" provided them with absolute ownership of the gas after they brought it to the surface, they were free to dispose of it in any manner they choose, including letting it escape into the air. The essence of their defence being therefore a request for the strict application of existing common law regardless of the fairness or equity of the outcome.

In framing the dispute as a constitutional issue, the court was in effect using the constitution to decide between two contradictory, legal contentions. The constitution itself being sufficiently vague as to allow for a decision in support of either of the contentions, the underlying judicial decision for the court came down to this;

Should precedent prevail when it results in an un-equitable and inefficient outcome, or should equity and efficiency force the evolution of the law to meet the demands of a changing circumstances?

The reason why this case is considered to be so important in the development of oil and gas law is not only that it sought to address this contradiction, but because of the comprehensive

any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

⁴⁴³ Sate v. Ohio Oil, p 201

⁴⁴⁴ *Id.* p 194-195, "Many cities in and adjacent to the gas territory, including those named, are wholly dependent for fuel upon natural gas, and for that reason the people of the state of Indiana have become and are interested in the protection and continued preservation of the natural gas supply; that many millions of dollars invested in manufacturing and other properties in and near said gas territory are wholly dependent for their continued preservation and for the permanent value of their property upon said natural gas supply; that their location and establishment in said gas territory was due to the presence of natural gas underlying the same, without which such enterprises could not operate at a profit, and that in the event the supply of gas should be exhausted in said territory many of such manufacturing enterprises, in which thousands of the citizens of Indiana find employment at remunerative wages, will be compelled to stop operation....That the value of the gas wasted by permitting said several wells to remain open each day is of great value, and that, in addition to the value of the same, the whole gas territory or field is greatly damaged by permitting said wells to remain open, in that what is known as 'back pressure,' resulting from the confinement of said gas, is in a great measure relieved and destroyed when said gas is liberated in the manner aforesaid"

manner in which it addressed it. For rather than simply blindly adopting one contention over the other, in its ruling the court made a conscious effort to examine the very essence of property rights which had been and which they felt ought to be attached to oil and gas ownership. They opened this examination by admitting that there existed confusion and misconceptions as to the nature of the rights of surface owners to oil and gas and the scope of the legislative authority to regulate the industry. Further; that these misconceptions were as a result of the fallacy that considered the rights of an owner to use certain means to acquire the resources, to be identical to the rights of ownership once acquired.

In attempting to eliminate this confusion, the court first stated that there was no doubt that under common law rules;

'the ownership in fee of that of the earth carries with it the right to the minerals beneath, and the consequent privilege to mining to extract them" and that there was also no doubt that governments had "the legislative authority to regulate the exercise of mining rights and to direct the methods of their enjoyment so as to prevent the infringement by one miner of the rights of others.'⁴⁴⁵

That said they went on to identify a practical issue that they felt needed to be addressed in order to resolve this dispute, which was;

'Does the peculiar character of the substances, oil and gas, which are here involved, the manner in which they are held in their natural reservoirs, the method by which and the time when they may be reduced to actual possession or become the property of a particular person, cause them to be exceptions to the general principles applicable to other mineral deposits, and hence subject them to different rules?'⁴⁴⁶

In order to answer this question, they first acknowledged the oil and gas were different from hard mineral because of its fluidity.⁴⁴⁷ A fluidity, which generated external consequences that the court described as follows;

'No one owner of the surface of the earth, within the area beneath which the gas and oil move, can exercise his right to extract from the common reservoir in which the supply is held without, to an extent, diminishing the source of supply as to which all other owners of the surface must exercise their rights. The waste by one owner, caused by a reckless enjoyment of his right of striking the reservoir at once therefore operates upon the other surface owners.'⁴⁴⁸

This answer was an indisputable annunciation of a simple premise, which was that when oil and gas reservoirs are under land of (and therefore common to) several surface owners, the actions of each and every surface owner must as a direct result of that commonality, have an effect of the property interests of all other surface land owners. The significance of this acknowledgement of commonality, was that it represented the first step on the evolutionary

⁴⁴⁵ Id. p 203, referring to: *Del Monte Min. & Mill. Co. V. Last Chance Min. & Mill. Co.* 171 U.S. 60, 43 L. Ed. 74, 18 Sup. Ct. Rep. 895

⁴⁴⁶ Id. p 203

⁴⁴⁷ This notion of fluidity was based on the mistaken assumption of "self-transmission", which provided the underlying, but equally mistaken, justification for the "capture rule".

⁴⁴⁸ Id. p 204

path towards the more contentious idea that common ownership of an assets resulted in correlative ownership rights. The reference to the “reckless enjoyment” of rights simply being an indication of the sentiment of the court towards the prevention of waste, which was the central issue at question in this case. A sentiment which the court sought support for by referring to *Hague v. Wheeler* and drawing from that case the following quote;

'Now it is doubtless true that the public has a sufficient interest in the preservation of oil and gas from waste to justify legislation upon this subject. Something has been done in this direction already by the acts regulating the plugging of abandoned wells. ... In the disposition he may make of it [private property], he is subject to two limitations. He must not disregard his obligations ligations to the public. He must not disregard his neighbor's rights. If he uses his product in such a manner as to violate any rule of public policy or any positive provision of the written law, he brings himself within the reach of the courts. If the use he makes of his own, or its waste, is injurious to the property or the health of others, such use or waste may be restrained, or damages recovered therefore, but, subject to these limitations, his power as an owner is absolute until the legislature shall, in the interest of the public, as consumers, restrict and regulate it by statute.'⁴⁴⁹

While this recognition of a communal effects and interest, clearly represented a start down the evolutionary path towards correlative property rights, there was an additional proposition in the ruling which made that path more likely. That proposition had to do with the way that the court changed the conceptualization of the nature of property rights attached to oil and gas reserves. It should be recalled that the “capture rule” was a concept that migrated from the property rights related to “feroe nature” or wild animals. Because of this migration it was not unreasonable to assume that oil and gas property rights would be equivalent to wild animal property rights. However, the court in took issue with that assumption. In their ruling they stated that;

'If the analogy between animals *ferae naturae* and mineral deposits of oil and gas, stated by the Pennsylvania court and adopted by the Indiana court, instead of simply establishing a similarity of relation, proved the identity of the two things, there would be an end of the case. This follows because things which are *ferae naturae* belong to the negative community; in other words, are public things subject to the absolute control of the state, which, although it allows them to be reduced to possession, may at its will not only regulate, but wholly forbid, their future taking... But whilst there is an analogy between animals *ferae naturae* and the moving deposits of oil and natural gas, there is not identity between them. Thus, the owner of land has the exclusive right on his property to reduce the game there found to possession, just as the owner of the soil has the exclusive right to reduce to possession the deposits of natural gas and oil found beneath the surface of his land. The owner of the soil cannot follow game when it passes from his property; so, also, the owner may not follow the natural gas when it shifts from beneath his own to the property of someone else within the gas field. It being true as to both animals *ferae naturae* and gas and oil, therefore,

⁴⁴⁹ *Id.* p 205

that whilst the right to appropriate and become the owner exists, proprietorship does not take being until the particular subjects of the right become property by being reduced to actual possession. The identity, however, is for many reasons wanting. In things *ferae naturae*, all are endowed with the power of seeking to reduce a portion of the public property to the domain of private ownership by reducing them to possession. In the case of natural gas and oil, no such right exists in the public. It is vested only in the owners in fee of the surface of the earth within the area of the gas field. This difference points at once to the distinction between the power which the lawmaker may exercise as to the two. In the one, as the public are the owners, everyone may be absolutely prevented from seeking to reduce to possession. No divesting of private property under such a condition can be conceived, because the public are the owners, and the enacting by the state of a law as to the public ownership is but the discharge of the governmental trust resting in the state as to property of that character. *Geer v. Connecticut*, 161 U. S. 519, 161 U. S. 525. On the other hand, as to gas and oil the surface proprietors within the gas field all have the right to reduce to possession the gas and oil beneath. They could not be absolutely deprived of this right which belongs to them without a taking of private property.⁴⁵⁰

The distinction that the court was making in this passage can be summarised into two sentences. First, because no one has any ownership interest in wild animals before they are captured, they belong to public property which the government can regulate it in any way it sees fit, including prohibiting their capture. Second, because surface land owners have some form of pre-capture rights to the oil and gas reservoirs under their property, the government does not have absolute authority in terms of regulations and specifically cannot absolutely prohibit their capture. While this may have appeared to support the absolutist doctrine being espoused by the defendant, it had quite the opposite effect. For by proscribing the imposition of regulations that would prohibit capture of oil and gas by surface owners, the court was effectively saying that it was legal to regulate capture, so long as those regulation did not absolutely prohibit capture. All of which meant that because the regulation at issue did not prohibit the capture by surface owners, the court was unlikely to overturn it. Which indeed was ultimately the case with the court referring to the defendant's assertions as follows:

'They really go, not to the power to make the regulations, but to their wisdom. But with the lawful discretion of the legislature or the state we may not interfere.'⁴⁵¹

The reason this particular proposition was so vital to the eventual adoption of correlated property rights in oil and gas was the it provided legislatures with an extremely wide purview in terms of its legitimate regulatory authority. A regulatory authority that in this instance prevented the court from interfering with regulation that were intended to prevent the waste of gas resources, but in later instances would require that all surface owners respect the correlative property rights of all other surface owners. That is not to say that this case did not have certain correlative property rights references in the ruling. Immediately after identifying the limits of regulation, the ruling went on to discuss the rights of individual and all surface owners as follows;

⁴⁵⁰ *Id.* p 209: citing *Geer v. Connecticut*, 161 U. S. 519, 161 U. S. 525.

⁴⁵¹ *Id.* p 212

'But there is a coequal right in them all to take from a common source of supply the two substances which in the nature of things are united, though separate. It follows from the essence of their right and from the situation of the things as to which it can be exerted that *the use by one of his power to seek to convert a part of the common fund to actual possession may result in an undue proportion's being attributed to one of the possessors of the right to the detriment of the others*, [Italics added] or by waste by one or more to the annihilation of the rights of the remainder. Hence it is that the legislative power, from the peculiar nature of the right and the objects upon which it is to be exerted, *can be manifested for the purpose of protecting all the collective owners by securing a just distribution*, [Italics added] to arise from the enjoyment by them of their privilege to reduce to possession, and to reach the like end by preventing waste. ... Viewed, then, as *a statute to protect or to prevent the waste of the common property of the surface owners*, [Italics added] the law of the State of Indiana which is here attacked because it is asserted that it divested private property without due compensation, in substance, *is a statute protecting private property and preventing it from being taken by one of the common owners without regard to the enjoyment of the others*. [Italic added]¹⁴⁵²

Of interest in this part of the ruling is that the court did not limit itself to a discussion on the validity of anti-waste legislation that was being challenged. Instead it chose to expand the ruling to encompass the possibility of future legislation which was designed protect all surface owners from the unjust appropriation of a single land owner. The result of this analysis was that the court took issue with the defendant's argument that the constitution protected its individual property right as this would imply;

'that one common owner may divest all the others of their rights without wrongdoing, but the lawmaking power cannot protect all the owners in their enjoyment without violating the Constitution of the United States.'¹⁴⁵³

The significance of this question cannot be overestimated. For it represents a very fundamental and extremely appropriate question, which was; *When there are several separate owners of an integrated property, does the Constitution protect the property rights of a single individual owners' rights to the detriment of all other property owners, or does it protect the rights of all property owners equally?* While the court did not answer this specific question, the answer can be inferred from the decision that it made in this case, which was;

'In view of the fact that regulations of natural deposits of oil and gas and the right of the owner to take them as an incident of title in fee to the surface of the earth, as said by the supreme court of Indiana, is ultimately but a regulation of real property, and they must hence be treated as relating to the preservation and protection of rights of an essentially local character. Considering this fact and the peculiar situation of the substances, as well as the character of the rights of the surface owners, we cannot say

⁴⁵² *Id.* 210

⁴⁵³ *Id.* 211

that the statute amounts to a taking of private property, when it is but a regulation by the state of Indiana of a subject which especially comes within its lawful authority.¹⁴⁵⁴

In providing this affirmation the court not only was ruling on the legitimacy of the regulation but was clearly acting like a court of equity. For rather than being restricted to maintaining a precedent that would result in an inefficient outcome, it sought to provide State governments with the flexibility to not only avoid inefficient outcomes, but to do so in a way that would allow a more equitable resolution of future ownership disputes. Although it would take some time before the full impact of this ruling would be felt, there can be no doubt that it was critical ruling that fundamentally changed the direction of the law and put it firmly on the path towards establishing correlative property rights in oil and gas.

6.2.4 Well Spacing Rules

While the *State v. Ohio Oil Co.* case involved the enforcement of State regulations which prohibited the waste of valuable gas resources prohibiting the venting gas into the air, this regulation was not to be the last regulation designed to protect against the destruction of oil and gas resources. In the first instance these regulations evolved as a result of practical considerations which were supported by a better scientific understanding of oil and gas resources. The practical considerations had to do with the regrettably short well life that was being experienced in the industry. In many, if not the majority of cases, high producing wells would either greatly reduce or stop production within one or two years of oil being discovered. Perhaps the most dramatic examples of this involved one of the most important oil and gas find in the history of the United States.

On January 10th, 1901 Captain Anthony F. Lucas and his drilling team struck oil in the Spindletop salt dome near Beaumont, Texas. This well was one of the most spectacular gushers since the foundation of the oil and gas industry, with production estimated at over 75,000 barrels per day. This record production level resulted in a rush of speculators who in the first year sunk 440 wells and by the third year had sunk over 1,000 wells. Unfortunately, because so many wells had been drilled so close together and so quickly; only 100 of them produced oil at a rate of more than 10,000 barrels a day. After the rush Lucas explained his understanding of the need for appropriate production methods and conservation, lamenting that Spindletop's rapid decline came from being "punched too full of holes." He added:

'The cow was milked too hard, and, moreover, she was not milked intelligently.'¹⁴⁵⁵

It was as a result of sentiments like Captain Lucas's, that answers were sought to determine how to better prolong the life of the oil wells being drilled. The answer turned out to be as simple as it was obvious. Too many wells, in too close a proximity were rapidly depleting the internal pressure of the reservoirs. The problem with this rapid depletion was that because oil did not move to the well head as fast as gas, the mixture of oil and gas that came to the surface often contained a lower concentration of oil than would have otherwise been possible if a slower depletion rate was utilised. All of which meant that huge quantities of oil were being left trapped in the ground after the internal pressure had been exhausted. Compounding this waste was the

⁴⁵⁴ *Id.* p 211

⁴⁵⁵ Society of Petroleum Engineers, 1957–69: *The Early Years*, (2007)

practical considerations of redundant capital expenditure on oil drilling equipment. Obviously if one well could produce more oil than two wells the cost of the additional well was wasted. The simple solution to these problems was to restrict the number of wells which would be allowed to be drilled in a reservoir. This is precisely what the new oil and gas conservation regulations set out to accomplish under what came to be called "well spacing rules".

Staying with Texas these oil and gas conservation rules were eventually delegated to Texas Railway Commission, which was to become the central administrative agency provided with the executive, legislative and judicial power to regulate the oil and gas industry in Texas.⁴⁵⁶ In fulfilling its conservation duties the Railway Commission established what became known as "Rule 37", which was the first well spacing rule to be adopted in the United States.⁴⁵⁷ This rule provided that;

'No well for oil or gas shall hereafter be drilled nearer than three hundred (300) feet to any other completed or drilling well on the same or adjoining tract or farm, and no well shall be drilled nearer than one hundred fifty (150) feet to any property line; provided that the commission, in order to prevent waste or to protect vested rights, will grant exceptions permitting drilling within shorter distances than as above prescribed, upon application filed fully stating the facts, notice thereof having first been given to all adjacent lessees affected thereby. Rule 37 shall not for the present be enforced within the proven fields of the Gulf Coast.'⁴⁵⁸

While there were the possibilities of being granted an exception under rule 37, it was inevitable that there would be those that would challenge the rule in the same way that the previous waste rules were challenged. These challenges were particularly likely as this rule clearly overturned a Supreme Court of Texas ruling made one year earlier in the 1916 case of *Texas Company v. Daugherty*⁴⁵⁹ where it was held that:

'For the purpose of making the exploration and producing all the oil, gas, and other minerals that might be within the ground, and the erection of all structures necessary thereto, as well as their storing and transportation, *the possession of the land itself is likewise granted, with no limitation upon the number of wells or shafts that the grantee might sink, or the extent of its operations in that connection, and consequently no*

⁴⁵⁶ The Railroad Commission of Texas, "*Chronological Listing of Key Events in the History of the Railroad Commission of Texas (1866-1939)*", (1999), "February 20, 1917 "Legislature declares pipelines to be common carriers, and gives Railroad Commission jurisdiction over same. This is the first act to designate the Railroad Commission as the agency to administer the conservation laws relating to oil and gas". *Tex. Nat. Res. Code Ann.* '111.013 (Vernon 1978) [original version at 1917 *Tex. Gen. Laws, Ch. 30, Tex. Rev. Civ. Stat. art. 6019 (Vernon 1962)*]" ... "December 21, 1917"...*The preservation and conservation of all natural resources of the State are each and all hereby declared public rights and duties, and the Legislature shall pass all such laws as may be appropriate thereto. "Adopted at August 21, 1917 election, Proclamation of December 21, 1917" ...*" March 31, 1919 Legislature enacts a statute requiring the conservation of oil and gas, forbidding waste, and giving the Railroad Commission jurisdiction. *Tex. Nat. Res. Code Ann.* '81.051 (Vernon 1978) [original version at 1919 *Tex. Gen. Laws, Ch. 155, Tex. Gen. Civ. Stat. art. 6023 (Vernon 1962)*].

⁴⁵⁷ *Id.* "November 26, 1919 Railroad Commission adopts first Statewide Rule regulating the oil and gas industry. Texas is the first state to adopt a well spacing rule: Rule 37, which has a conservation basis, was promulgated primarily to reduce fire hazards, and to minimize the danger of water percolation into oil stratum from wells drilled in too great a number or in too close of a proximity. *Railroad Commission v. Bass*, 10 S.W.2d 586 (*Tex. Civ. App.-Austin* 1928) writ *dism'd*, 51 S.W.2d 1113 (*Tex. Comm'n App.* 1932)

⁴⁵⁸ Texas Administrative Code, Title 16, Part 1 Chapter 3, Rule §3.37

⁴⁵⁹ *Texas Company v. Daugherty et al.*, 107 Tex. 226, 176 S.W. 717, 718, L.R.A.1917F, 989

qualification of its right of possession of all such parts of the surface, [Italics added] except that no well should be drilled nearer than 200 feet from the house or barn on the premises without the consent of both parties, as might be necessary to its full use by the grantee for the purposes named.'[Italics Added]⁴⁶⁰

While these challenges to the well spacing rules were virtually inevitable, the precedent set by U.S. Supreme Court in *Ohio Oil v. Indiana*, also meant that the ruling in support of the rules were practically inevitable. This because; if it was legally acceptable to regulate against the wasteful process of flaring gas, it ought to be legally acceptable the regulate against the wasteful practice of over drilling. The only difference between that former being, it was more obviousness than the later. As such, once science could confirm the waste involved in over drilling, it became a relatively straight forward decision for the courts. This indeed was exactly what happened.

Two of years after enacting the well spacing rules, the Supreme Court of Texas was presented with the case of *Oxford Oil Co. v. Atlantic Oil Co.*⁴⁶¹. While this case involved a dispute between two oil companies, the real issue in the case was the well spacing rules imposed by the Texas Railroad Commission. In this case the plaintiff complained the because of well spacing rules they were not allowed to drill sufficient wells on their property which resulted in the defendant being able to drain oil from under that which the plaintiff felt ought to belong to them. The actual claims made by the plaintiffs were that;

'the vesting of the authority in the commission by the Legislature to supervise the drilling of oil wells in Texas is and was illegal; that such illegal acts and regulations was a violation of two of the provisions of the national Constitution, namely, section 10 of article 1, and the Fourteenth.'⁴⁶²

In rendering its decision, the Court ruled that the Texas Legislature had the ability to delegate and had properly delegated it authority to the Railway Commission. As to the constitutionality of "Rule 14" Judge Atwell after citing *Ohio Oil v. Illinois* declared that;

'In considering this demurrer, I am convinced that the plaintiffs' rights have not been violated, and, that the drillings allowed by the commission were consistent with the plaintiffs' ownership, rights of development, and enjoyment, and preservative of the property rights of neighboring and contiguous owners.'⁴⁶³

Shortly after this decision almost every oil producing State in the Union adopted similar well spacing rules to protect their own oil and gas resources from the waste inherent in over drilling. Because this was done using administrative agencies and administrative regulation, the landmark cases and precedents in this field relate to confirming the legality of those agencies and their regulations. An early and notable precedent relating to well spacing being provided in the 1929, case of *Marrs v. City of Oxford*.⁴⁶⁴ While that case involved an appeal of municipal

⁴⁶⁰ *Id.*

⁴⁶¹ *Oxford Oil Co. v. Atlantic Oil Co.*, 22 F.2d 597

⁴⁶² *Id.* p 642

⁴⁶³ *Id.* p 643

⁴⁶⁴ *Marrs v. City of Oxford*, 32 F. 2d 134 - Circuit Court of Appeals, 8th Circuit 1929

regulations prohibiting drilling oil well within the city limits the court expanded its ruling by referring to correlative rights as follows;

“But looking to the substance of things, as equity does, what are the rights of plaintiffs that will be encroached upon or denied to them by the enforcement of this ordinance? It is not the mere right to drill a well on one or two lots at great cost and stop with that, or to take the proportionate part of the oil and gas in the pool that might be said to lie under or be fairly attributed to those lots. The obvious purpose was to reach the pool as quickly as possible and take all of the oil and gas obtainable before others could get it, thus seriously encroaching upon and probably destroying the same rights of adjoining lot owners. If one or more lot owners have given a lease for which no permit is obtainable their lessee may join a lessee who has a permit in the same block on terms that are fair to both lessor and lessee. If a lot owner has not given a lease he is protected by the asking in a fair proportion of the mineral produced by a permittee. The regulations make every effort to protect, rather than to destroy rights. They extend equal opportunity to all who have an interest and eliminate the race between those having equal rights in a common source of wealth, so that some may not take all and leave others with nothing...The basis of a statute, suggested in the Indiana case, is the governmental power to equally protect each surface owner in his right to a common fund. Complaint is made that the city was not vested with that power. Let it be conceded; still it does not follow that a court of equity will lend its aid to one in his effort to take all of a fund in which there is a community interest. The bill seems to us to be wholly without merit and the judgments of dismissal are Affirmed.”⁴⁶⁵

Again, it should be noted that the discussion of correlative rights clearly represents a dramatic change from the early oil and gas precedents which provided every surface owner with the absolute right to extract as much oil and gas water as they desired regardless of consequence for the reservoir and their neighbours. A precedent that was discarded in an effort protect the reservoir and avoid inequitable outcomes. As effective as well spacing rules were in reducing the rapid depletion of internal pressure in reservoirs, it turned out that they were not capable of restricting oil production to a level that ensured maximum oil recovery. As such they were soon augmented by proration rules, that limited the amount of oil that could be taken from any given well during a specific period.

6.2.5 Proration Rules

Whilst well spacing rules were clearly intended to prevent the waste associated with internal pressure depletion, this was not the sole motivation for the production restrictions imposed on well owners under proration rules. The additional motivation for prorationing rules focused not on the physical waste of the natural resources, but rather a concern about the perceived economic waste which occurred when there was more oil being produced than the market could absorb. To put this concern into context, it should be remembered that the demand for oil and gas was initially based on illumination market. Although this market was large, it was not nearly

⁴⁶⁵ *Id.*

large enough to absorb all the oil and gas that was coming to the market as a result of prospecting operations. Indeed, it was not until there was a dramatic expansion in petrol engines and gas power plants that there was sufficient demand required to absorb the increase in supply that was reaching the markets during the early decades of the 20th century. This imbalance between supply and demand being exacerbated by the that huge oil and gas finds that took place in Texas and Oklahoma in the first two decades of the new century. All of which meant that the price of oil and gas dropped dramatically after the end of World War I. A price drop that was causing significant financial distress to everyone involved with the oil and gas industry, but most significantly to smaller independent operators.

It should also be recalled that during this same period there was the beginnings of a dramatic shift in the attitudes towards the excesses of free markets operations and absolute property rights. Even before the turn of the century the scepticism of totally unregulated free markets had resulted in the adoption of the Sherman Act which was designed to prohibit anti-competitive behaviour amongst the powerful trading companies, most notable Standard Oil. These restrictions being further enhanced by the adoption of the Clayton Act in 1915 which attempted to clarify the prohibition embodied in the Sherman Act.⁴⁶⁶

Put in the context of the financial distress of the oil and gas industry and a growing scepticism of unregulated markets and the resulting the expansion of government regulations, it is hardly surprising that the oil and gas regulators felt that they not only ought to, but also had the authority to do something to reduce this perceived economic waste. This feeling being consistent with the precedence that had been established by the courts when upholding prior waste prohibiting regulations. Not the least of which being the well spacing rules, which although reducing actual physical waste of oil and gas reservoirs also served to reduce the economic waste involved with redundant drilling operations. For these regulators the solution appeared simple. If too much oil and gas was being produced, they should impose regulations that restricted production, by prorationing or limiting the production allowances of individual oil wells on a State-wide basis.

One of the first States to adopt proration regulations was the State of Oklahoma. These restrictions were adopted in 1921, by the Oklahoma Corporate Commission, which was authorized to create a department with authority over oil and gas production in the State of Oklahoma under a 1917 statute for the purpose of regulating the conservation of oil and gas.⁴⁶⁷ The relevant sections of regulations which were imposed by the Commission reading as follows;

'Section 7954: Waste prohibited. That the production of crude oil or petroleum in the state of Oklahoma, in such manner and under such conditions as to constitute waste, is hereby prohibited.

Section 7955: Production and Sale Regulated. That the taking of crude oil or petroleum from any oil-bearing sand or sands in the State of Oklahoma at a time when there is not a market demand therefore at the well at a price equivalent to the actual value of such crude oil or petroleum is hereby prohibited, and the actual value of such crude oil or petroleum at any time shall be the average value as near as may be ascertained in the United States at retail of the by products of such crude oil or

⁴⁶⁶ See Chapter 14: Directed Property

⁴⁶⁷ (S. L. 1917, p. 385, Sec. 1.-2.)

petroleum when refined less the cost and a reasonable profit in the business of transporting, refining and marketing the same, and the Corporation Commission of this State is hereby invested (sic) with the authority and power to investigate and determine from time to time the actual value of such crude oil or petroleum by the standard herein provided, and when so determined said Commission shall promulgate its findings by its orders duly made and recorded, and publish the same in some newspaper of general circulation in the State.⁴⁶⁸

While these regulations were adopted in 1921, the first major application of proration orders did not occur until 1930. In that year the Commission issued orders which dramatically restricted the production of crude petroleum in Oklahoma and which had the result of limiting production in major field called the Oklahoma City field to 8 1/3 per cent of the potential production.⁴⁶⁹ Needless to say this extremely restrictive level of production was quickly challenged in the courts and was the subject of the case of *C. C. Julian Oil & Royalties Co. V. Capshaw*.⁴⁷⁰ In this case C. C. Julian Oil & Royalties Co. (the petitioner), an oil company operating in the Oklahoma City field, was seeking a writ of prohibition from the Supreme Court prohibiting Capshaw (the Corporate Commission), from enforcing its proration orders.

Although the petition also challenged the authority of the Commission, as well as the due process involved in the preparation and implementation of the proration orders, the substantive part of the allegations in the petition concerned the validity of the orders. The first validity challenge revolved around the fact that the petitioner was an integrated petroleum company which had facilities to process and sell all the oil extracted from its wells. As such, it argued that because it was not wasting oil, the waste provisions of the regulation should not apply to it and that the restriction on its crude production amounted to a breach of the 14th Amendment. The second validity challenge revolved around the fact that proration orders did not treat all fields in the same manner, and it was argued that as the orders allowed wells in other fields to produce at higher levels, and this constituted a breach of doctrine of equal protection under the law. The final allegation was that as the proration orders restricted the supply of crude, this would necessarily raise the price of crude and could be construed as price fixing, which was a breach of completion laws. The nature and consequences of each of these challenges is so relevant to the evolution of this law that each deserves to be clearly asked and answered in a more detailed manner.

With respect the application of the specific proration order made on the petitioner, it is easy to comprehend why they argued these regulations should not be enforced against them. After all they were producing oil from their own wells, transporting it in their own pipeline, and refining it in their own refinery. This integration operation allowed them not only to minimise waste, but to utilize the full production capacity of their wells, to maximise their profits. By classical economic standards they were pursuing preciously the sort of competitive activities that free

⁴⁶⁸ C.O.S. 1921

⁴⁶⁹ On June 30, 1930, under order No. 5189, the Commission found that it was necessary to curtail the output of crude petroleum in Oklahoma from the potential capacity of all the wells in the state amounting approximately to 1,450,000 barrels per day to 650,000 barrels per day, On July 24, 1930 under order No. 5246, the Commission reduced the total allowable production of crude oil in said state to 550,000 barrels per day, which resulted in a proration level equal to 18 3/4 per cent of production, in the Oklahoma City field. As a result of further finds in the Oklahoma City field this proration order was later further reduced by the operators committee and the umpire to 8 1/3 per cent. of the potential production of the wells in the said field.

⁴⁷⁰ C. C. JULIAN OIL & ROYALTIES CO. v. CAPSHAW et al, 1930 OK 452, 292 P. 841, 145 Okla. 237

market advocates applauded. It was not their fault that the other producers in the Oklahoma field did not have their own pipelines and refining facilities. They were not responsible for the waste which the other producers were creating by producing oil that they could neither sell or store properly. To add insult to injury if the proration order was held up it would force them to buy crude oil for their refining operation from their wasteful competitors, rather than supply it for free from their own non-wasteful production operation.

The implication of this argument was that the commission should only act against those non-integrated producers who were the ones generating the waste, rather than enacting proration orders against all producers. There was however one obvious flaw in their argument, which was that it could nullify or at least disproportionately harm the property rights of the smaller non-integrated oil producers. The manners in which this could happen are as follows. In the worst case if the integrated wells can produce all the crude oil needed for their refineries, this would result in the non-integrated wells being total shut down. Over the long term these circumstances this would allow the integrated oil companies to eventually capture all of the oil and gas from the reservoir, entirely eliminating the oil and gas property rights of the non-integrated producers. In a less extreme case, where the integrated oil companies could not produce sufficient crude from their own well, but there is still too much capacity, this would result in the non-integrated wells production being restricted. These restrictions would reduce the value the non-integrated wells, allowing the integrated oil companies to purchase them at a discount. Once the wells changed ownership, the integrated oil companies could increase production until all of their supply needs were met, returning the situation to the earlier worst case scenario. Even if the wells were not to change hands, and the integrated producer simply purchased additional supply needs from the restricted non-integrated wells, this would still mean that the integrated oil companies which were operating their wells at full capacity while the non-integrated competitors were producing at less than full capacity. This disproportionate capture of oil by the integrated oil companies, representing an appropriation of oil that would otherwise have been captured by the non-integrated producers.

While the petitioner may have been unconcerned about the disproportionate effect that their first challenge would have on non-integrated producers, that did not prevent them from raising this in their second challenge. Their contention being that because other fields were allowed to produce at higher levels than the Oklahoma City field, this constituted a breach of the doctrine of equal protection under the law. Whilst there can be no doubt that imposing different production restrictions in different fields represented a different regulatory treatment, the real question was if this treatment represented unequal protection of the property rights of the oil producers? With respect to the actual property rights of the petitioner it is clear that allowing higher production levels in other fields would not impact either total amount of oil in the Oklahoma City field nor the petitioner's ability to capture its proportional share of that reservoir. The real consequence of the variable proration orders was that operators in other fields could capture and exhaust the oil and gas in their common reservoirs more quickly than the petitioner. The financial consequence of this delay being that a longer production period would mean higher production costs.

However, it must be acknowledged that variations in proration orders were based on a scientific assessment of production potential of the individual fields involved and not some random or malevolent decision-making process. As such it can be assumed that there were technical reasons for allowing higher production levels in certain fields. The most rational

reasons for these higher production levels would be because of decreased production capacities of the other field. Decreased production capacities could mean that if they were subject to the same restrictive levels as the highly productive Oklahoma City field, their output would be so low that they could no longer be economically viable. Given the costs of shutting in a well, and the potential harm that can be done to reservoir from such a closure, the least wasteful option for the commission would be to allow production at a level the was viable even though it might be higher than those imposed on other fields.

If it is accepted that the variable level of the proration orders were designed to minimize aggregate waste, the substantive issue was; did the lower proration rate imposed on the Oklahoma field rates imposed a disproportionate cost on the petitioner. To calculate this cost requires comparing costs of the imposed rate, against the cost of what the average rate would have been. Given the aggregate proration orders reduced state wide production to less than 25% of total capacity, the difference between this rate and the proration rate imposed on the Oklahoma City field of 8.33% meant that the production period would be about three time as long as if the average rate would have been applied. This delay in production therefore would imply marginal production cost of three time what it would have been in the average rate had been used. Although this multiple appears quite high, it should be noted that the marginal costs were almost negligible. In terms of overall production cost, the highest costs of production were the actual drilling of the well and connecting the well to a pipeline transport network. After these activities were completed there were no real marginal costs other than the maintenance of the transport system and the cost of turning valves connected to the well to the pipeline on and off. Given this low level of marginal costs it would appear that the actual additional cost to the petitioner with respect to crude oil production would be so low as to be immaterial.

While the marginal cost of crude production may have been immaterial, the third challenge to the proration orders demonstrated that the petitioner was concerned about an anticipated increase costs of acquiring crude to supply their refining operations. According to this challenge they were concerned that the price of crude might increase as a result of the production restrictions. This they argued that it would be equivalent setting up a price fixing cartel which was prohibited under existing competition law.⁴⁷¹ Whilst the merits of this challenge can be debated there were several factors which tended to undermine this challenge, at that time. The first of which was that the restriction imposed by the commission did not have a material effect on supply or price of crude oil, as other States did not impose similar restriction. Second because of the economic downturn which had just started, there was a significant contraction in demand for the refined products, which led to corresponding decrease in demand for crude oil. Indeed, the contraction in demand was one of the main reasons why the Commission felt that proration orders were necessary. Third, the initial reaction to the onset of the Great Depression involved a dramatic increase in the scepticism towards free markets, and an equally dramatic increase in the perceived need for governmental management of the market through regulation. Given this context it really did not matter if the restrictive production limits may have amounted to a failed attempt at governmental price fixing, there was little sympathy in the public arena or the courts for such a charge.

Although these challenges were framed as separate issues there was also an overall implied challenge that was not articulated, which was that the government had no right to interfere with

⁴⁷¹ Sherman Act (1890) Stat. 209, 15 U.S.C. §§1-7

the internal operations of an integrated corporate entity. This challenge revolved around the idea that there was a sanctity of internal business operations that was guaranteed under free market property principles. By issuing the proration orders the government was forcing the petitioner to buy its crude from external suppliers, when it could more easily and at less cost supply its needs from internally owned wells. The shortcoming of this proposition was that while the petitioner's business was involved internally integrated operations they were operation which represented several different business activities, on several different markets. Their first activity was a crude oil exploration and development business, their second activity was an oil and gas transport business, and their final activity was a refining business. Each of these business activities clearly being capable of being operated and regulated on a separate basis. Which is preciously why the regulators were focussed on their specific area of authority, rather than overall integrated operations. For the commission it did not matter whether the subjects of the proration orders were integrated or not. They had the authority and were acting on concerns regarding the overproduction in Oklahoma oil fields, which they believed was causing unnecessary waste to a valuable state resource. The sanctity of internal operations were of less concern, than finding and equitable solution which both eliminated the waste and provided the fairest result for all crude oil producers.

While the court supported the commission by declining the writ of prohibition, its decision represented both an extension and expansion of earlier precedent. It can be regarded as an extension, because as with previous decisions it found that the commission was authorised to prevent physical waste in the industry. It can be regarded as an expansion, because it supported the imposition of indirect methods of preventing physical waste that had previously not been litigated.

The clearest explanation of the commissions right to regulate against physical waste can be found in the Judge Hunt's special concurring opinion, which read as follows:

'The word "waste" means to destroy wantonly, to diminish, to squander, to impair. Ordinarily, the term, when used in connection with the waste of crude oil, means to permit oil to be discharged or to flow out on the ground or be washed away and put to no useful purpose. Practically all surface losses of oil comes from the lack of proper storage and pipe line facilities and the inability of producers to control the flow of wells when they are first brought in under heavy pressures. It is a matter of common knowledge that serious surface wastage of oil results from putting it in earthen storage. These and other kinds of surface or ordinary waste are intended to be prevented by the act herein under consideration. "Underground waste" takes place whenever oil in the reservoir where it is discovered is left in the ground when it could, by proper operating methods, have been recovered. ... Surface waste or underground waste, or both, may occur as an incident to the production of crude oil in excess of transportation or marketing facilities or reasonable market demand. It is readily apparent that if the production exceeds the market demand or transportation facilities, then the oil must be placed in storage, and if one producer produces in excess of such demand, then another must do likewise to prevent his oil from being drained, and so on with all the producers in the field, with the result that much oil would have to be placed in earthen storage and considerable oil would almost certainly be allowed to waste on the surface of the ground, to evaporate and to waste in streams and rivers.

These several definitions of waste, all of which are prohibited by the act, are, in our judgment, definite and certain, and we so hold.⁴⁷²

It should be noted that although the proration orders were driven by a practical need to address the glut of crude oil on the markets, this explanation of waste does not focus on the economic waste that would result from a price reduction, but rather the actual physical waste that results from the inability to properly store excess production. By defining the waste as physical waste, the court was able to invoke the precedent established in *Ohio Oil v. Indiana*. However, as *Ohio Oil* involved direct waste by the plaintiff the court would need to expand on that precedent to address the indirect waste described above. To do this the court drew upon additional case law, as well as Oklahoma Constitutional law.

The additional case law which was instrumental in expanding the *Ohio Oil* precedent was *Pawshuska Oil & Gas v. City of Pawshuska*.⁴⁷³ This case which involved the regulation of gas prices was cited not for its details, but because of the sentiments towards the correlated rights expressed in the opinion. The specific sentiments quoted by Judge Hunt were contained in a single sentence which was;

'The right of the owner of property to do with it as he pleases is subject to the limitation that he must have due regard to the rights of others.'⁴⁷⁴

The court interpreted this sentence as an invocation of the maxim, “*Sic utere tuo, ut alienum non laedas*” which the court translated as “Everyone must so use his own property as not to injure the rights of others”. This interpretation being supported by the court’s citation of to Oklahoma Constitutional law where it was stated that;

'The police power to a large extent rests on the maxim '*Sic utere tuo ut alienum non laedas*,' and it is the function of the government by which this maxim is enforced. One of the objects of government is to impose that degree of restraint on individual action which is required for the reasonable enjoyment of all in their respective rights. It has been said that nearly every problem involved in the police power finds its solution in the application of the principle embodied in this maxim, that everyone must so use his own property as not to injure the rights of others, and that this principle should be observed in the exercise of the police power.'⁴⁷⁵

The significance of this court invoking this maxim should not be underestimated. At the very least it challenged the capture doctrine, which contained no obligations to protect the property rights of other owners. Moreover, and more significantly by invoking this maxim, the court was signalling that it would be following the correlative rights doctrine on the oil and gas industry, as the concept of “not using your property to hurt others” represents the cornerstone, if not the quintessential foundation of correlative property rights. Of course, indicating that a doctrine is going to be followed does not mean that doctrine will be applied. To see whether the doctrine

⁴⁷² C. C. JULIAN OIL & ROYALTIES CO. v. CAPSHAW, Special Concurring Opinion, para 16-19

⁴⁷³ PAWHUSKA OIL & GAS CO. v. CITY OF PAWHUSKA, 1914 OK 443, 148 P. 118, 47 Okla. 342

⁴⁷⁴ *Id.*, para 6

⁴⁷⁵ “6 R. C. L. Constitutional Law, § 186” quoted in paragraph 26 of Judge Hunts Special Concurring Opinion

was applied requires examining the decision of the court and the supplemental opinions. The decision of the court in this case concluded with the sentence;

'we do hold that the act as a whole provides a valid method of preventing waste of the oil of this state; that the same is a proper exercise of the police power of the state; and that plaintiff has not been deprived of any of its constitutional rights....The writ is therefore denied'⁴⁷⁶

While this rather innocuous sentence does not refer to correlative rights, the fact that it is upholding the regulations which imposes the same restrictions that would be imposed under the correlative rights doctrine, means that the court is de-facto imposing the correlative rights doctrine. This de-facto imposition of the correlative rights doctrine being much more clearly conveyed in the Special Concurring Opinion provided by Judge Hunt. His most notable comments on de-facto correlative property rights reading as follows;

'As has been shown, the state may, in order to prevent waste, limit the production of oil from any well. This is true whether the owner of such well has his own market outlet or not; and, as has already been shown, *the state has the power to protect all the collective owners in a common pool against the disproportionate taking by any one or more of said owners.* [Italics added] Since, unquestionably, the power of the state extends to requiring proportionality of taking by all the owners in any pool where the production from the pool cannot be obtained without waste, it extends also to limiting the taking of only their proportionate parts of the common fund by those producers who possess their own pipe lines or refineries or other means of disposing of the full amount of the potential production of their wells. Certainly not all the owners in the Oklahoma City pool have outlets for their full potential production, else there would be a market outlet for the full production of the field, and no need for any curtailment. A limited few, one or more large producers, and one or more small producers, may have such outlet, but if they be allowed to produce without limit, then the oil of the remainder will be drained and appropriated by these fortunate ones, or such remaining well owners will have to produce and store, many of them in earthen tanks, their oil, and thus great waste will result. *A law which prohibits these things is valid. It does not unconstitutionally interfere with the rights of one in the situation of petitioner. He may not indirectly cause waste to occur nor may he deprive others of their fair share of the oil in the common pool.*"[Italics Added]⁴⁷⁷

In these comments Judge Hunt comes as close a Judge can to invoking the correlative rights doctrine without articulating the words. Included in this quote are not only the concepts to common pool which entails common ownership, but also the need to facilitate proportional production and to prevent disproportionate taking. The last sentence concluding that the petitioner "may not deprive others of their fair share of the oil in a common pool" being perhaps the simplest rule which would result from imposing the correlative rights doctrine in oil and gas industry. A rule which had been applied in previous water cases and would become more and more relevant to other oil and gas cases as this field of law evolved.

⁴⁷⁶ C. C. JULIAN OIL & ROYALTIES CO. v. CAPSHAW para 29-30

⁴⁷⁷ *Id.* Special Concurring Opinion para 43

To the extent that the decision of the court and Judge Hunt's special concurring opinion represent a de-facto imposition of correlative property rights, the only step required for the formal adoption of correlative property rights doctrine in the field of oil and gas law, was the actual announcement of the doctrine and its adoption in subsequent cases. This is precisely what occurred when the courts began to hear cases which related to yet another regulatory measure intended to create a more equitable and efficient outcome by combining the ownership interests of all owners in the oil fields. Those regulations creating what is now referred to as pooling and unitization rules.

6.2.6 Pooling and Unitization Rules

Before going into the details of pooling and unitization it is perhaps useful to recap, how this next stage in the regulatory process evolved. As discussed above, the capture doctrine relied on a race to capture as much oil as possible, in a total disregard for both production efficiencies and conservation. It was to address the conservation and efficiency problems that various regulations, including oil well spacing and proration, were developed. However, there were several problems that these regulations created, the most obvious of which were that they tended to discriminate against the smaller property owners which either; did not own land large enough to qualify for a well, (under the well spacing rules), or who's wells were such marginal producers that any production restriction would make them uneconomical. The only way to overcome this problem was to provide the small property owners with exemptions. The two most obvious problems with the exemptions were that they both defeated the purpose of the regulations and discriminated against those that were not provided with exemptions. In addition to the self-defeating and discrimination nature of the exemption, there were two other issues which created an incentive to develop new forms of regulations. The first there was the potential for corruption and the second the free rider issues.

As to corruption. By definition all exceptions are deviations from a regulation which require some degree of subjective decision making, and whenever subjective decision is required there is always a greater opportunity for corruption. In the field of oil and gas these subjective decisions primarily involved acquiring drilling rights and avoiding production constraints. Clearly as these decisions could have profound financial implications for not only the property owners that were seeking the exemptions, but also for all other property owners that would be affected by either an increase in the number of wells or a change in the production allowances granted to their competitors. It was because of the financial effects of these decisions that oil companies sought to influence the regulators through various corrupt methods.⁴⁷⁸

As to the free rider issue, this arose because of the advances in petroleum technology, specifically the technological developments related to re-pressurising underground oil reservoirs. The basic idea behind this technology was that by pumping or injecting various solutions down into a reservoir the internal pressure could be increased allowing for greater recovery from the reservoir. The free rider issue arose because of the integrated nature of the

⁴⁷⁸ The most high profile example of this sort of corrupt behaviour resulted in something called the Teapot Dome Scandal. This particular incident involved an oil man named Edward Laurence Doheny providing a \$100,000 gift to the Secretary of Interior, Albert Fall in order to secure drilling rights to the Elk Hills Naval Petroleum Reserve. Although Fall was convicted of accepting a bribe, Doheny was twice acquitted of offering the bribe.

reservoir. Obviously if when one party injects fluids into a reservoir it re-pressurises the whole reservoir and as such it also is a free benefit to other owners.

It was this free rider issue which initially severely limited the use of injection technology even though it could substantially increase the recovery process. Given the reliance of all property owners on a single integrated resource, it could be expected that these regulations would focus on integrating the ownership interest of previously separate property owners into a single common ownership interest. This integration being facilitated through two different process called pooling and unitization. Notwithstanding the fact that they are closely related, pooling and unitization have their own special meaning. Pooling usually means a voluntary, although it can also be a compulsory, combination of tracts which were instituted in order to comply with spacing and or proration regulations. These pooling combinations generally represent only part of a reservoir but in certain instances can cover the entire reservoir. Unitization on the other hand almost always means a compulsory combination of all tracts in an entire reservoir, which elimination of internal property boundaries within the unit area. The objective of a unitization being to extract underlying oil and gas reserves in the most the most efficient and cost-effective means.⁴⁷⁹

The first of these regulations to be adopted were those that covered pooling. This was because in the first instance pooling regulations did not require a change in the law, but rather a recognition and acceptance of a process that property owners were pursuing in the private sphere. This process generally involved smaller property owners, combining their separately owned properties together, to form a property which was large enough to qualify for a well under the applicable well spacing rules. While these combinations resulted in a smaller number of well authorization than may have occurred under an exemption program, it did result in more wells than would have been authorized without an exemption program.

While this initial acceptance of pooling would appear to be rather straight forward, that does not mean that there were no controversial aspects which arose as a result of its adoption. The most controversial aspect of its adoption was that it often resulted in a restriction of the supply of exemptions. This restriction in the supply of exemptions had at least two negative consequences for small property owners. First, it meant that if single property owners did not want to cooperate with their neighbours they would be deprived of an opportunity to access the oil and gas under their property. As can be expected, this raised the same taking issues that arose when the well spacing rules were first adopted. Second, even if they were willing to cooperate with their neighbours, it put them in a much weaker bargaining position if their neighbours which had properties large enough to meet the well spacing requirements. The second of these was even more contentious problem if the neighbouring property owner was a large oil company, as it could involve competition law considerations. Although both issues had been previously

⁴⁷⁹ U.S. Dept. of Interior, Bureau of Land Management, H-3180-1, Unitization Regulations Introduction "The objective of unitization is to proceed with a program that will adequately and timely explore and develop all committed lands within the unit area without regard to internal ownership boundaries. Exploratory units normally embrace a prospective area that has been delineated on the basis of geological and/or geophysical inference. Exploratory unit agreements normally encompass all oil and gas interests in all formations within the unit area and provide for the allocation of unitized production to the committed lands reasonably proven to be productive of unitized substances in paying quantities on the basis of the surface acreage included within the controlling participating area. By effectively eliminating internal property boundaries within the unit area, unitization permits the most efficient and cost-effective means of developing the underlying oil and gas resources."

resolved by exemptions allowances, those allowances were now being withdrawn or at least restricted in an effort to promote pooling.

Additional controversies with respect to the pooling acceptance revolved around the perception that it did nothing to resolve the distress caused by proration production limitations. It was as result of these concerns that the pooling regulations were expanded from rules that recognised and authorised pooling, to ones that actively encouraged pooling. This encouragement usually involved various incentive schemes, the most important of which was allowing production allocations to be transferred from multiple wells to a single well. Under this scheme production from marginal or uneconomical wells could be transferred to a single well which could be operated at higher capacity, eliminating the production costs at the wells that were shut in. Because these potential reductions in costs would improve the profitability of the combined operations, whilst at the same time maintaining the primary conservation and economic objectives of proration, they were relatively popular with both producers and regulators. The problem with this scheme was that it did little to address the free rider issue that arose when oil reservoirs needed to be pressurised. To address this issue regulators had to expand regulations from encouraging voluntary pooling of parts of a reservoir to mandating the compulsory unitization of the entire reservoir.

Because by definition unitization involves compulsory orders it is often assumed that it is a highly regulated process, that is outside the control of the property owners. However, this is not the case. In fact, unitization was and is primarily initiated and decided by property owners themselves. When property owners with a working interest in the reservoir want to pursue the unitization of their reservoir they first submit an application to prompt a unitization vote. Assuming sufficient property owners support the application, the regulatory authorities will organise a vote. To win the unitization vote typically requires a super majority of between 66% to 75% of all property ownership rights holders to support it. It is only after this democratic process has been completed, and a super majority of property owners have given active support to unitization, that the relevant authorities can commence issuing compulsory unitization orders.

However regardless of the democratic nature of the unitization process there can be no denying the fact that when unitization occurs it subordinates the will of the individual property owner to the will of the majority of property owners. As such from the prospective of a non-consenting property owner, this was viewed as an unacceptable and unconstitutional taking of property rights. However, because previous litigation against other regulation designed to protect oil and gas reserves had already been cleared of allegations with respect to taking, and these regulations were simply an extension of those regulations, no challenge has been successful. Which is why pooling, statutory pooling and unitization regulations are still applied in most oil producing states. A good example of which can be found in the Mineral and Mining part of the Utah Code:

'It is declared to be in the public interest to foster, encourage, and promote the development, production, and utilization of natural resources of oil and gas in the state of Utah in such a manner as will prevent waste; to authorize and to provide for the operation and development of oil and gas properties in such a manner that a greater ultimate recovery of oil and gas may be obtained and that the *correlative rights* of all owners may be fully protected; to provide exclusive state authority over oil and gas exploration and development as regulated under the provisions of this chapter; to

encourage, authorize, and provide for voluntary agreements for cycling, recycling, pressure maintenance, and secondary recovery operations in order that the greatest possible economic recovery of oil and gas may be obtained within the state to the end that the land owners, the royalty owners, the producers, and the general public may realize and enjoy the greatest possible good from these vital natural resources.'[Italics Added]⁴⁸⁰

6.2.7 Oil and Gas Law Lessons for Intellectual Property Law

Just like water law, oil and gas law demonstrated an ability of common law to recognize and adapt to alternative sets of underlying circumstances, which is the reason why it has been able to retain its relevance. Also like water law, this evolution in doctrines was the result of searching for an equitable manner of sharing what is a finite amount of resources between multiple owners each of which had an independent claim on the integrated resource. The net result of this evolution has been that the oil and gas resources have been much more efficiently used, with the rewards from it being shared in a much more equitable fashion than what they were during the early stages of development.

Given the similarities between water law and oil and gas law it is hardly surprising that they provide similar lessons for intellectual property law. In fact, the lessons are so similar that it would be redundant to repeat them here. That said there are at least four lessons which can be drawn from oil and gas law which either were not evident in water law or were not articulated at length when the implications of water law were provided.

The first and perhaps most significant is that the evolution of oil and gas law demonstrates that it is perfectly acceptable and practically justifiable to use doctrines established in one body of law, when attempting to find equitable solutions to similar problems in another. That good doctrines can and do migrate between bodies of law, that there is nothing that limits the use of the correlated rights doctrine to merely dealing with water disputes. More specifically; if it is perfectly acceptable for the correlated rights doctrine to be applied in oil and gas law, then it must also be perfectly acceptable to apply it in intellectual property law. The only question being if applying the correlated rights doctrine will result in more equitable outcomes than applying other doctrines.

The second additional implication that comes out of oil and gas law is that regulating an industry is not the same as taking property. A reality which had to be litigated almost every time that oil and gas doctrines changed. That governments have the power to regulate properties for the common good of property owners and society was challenged so frequently; indicates just how ingrained the absolutist doctrine was in the attitudes of the oil and gas industry. It goes without saying that the similar attitudes undoubtedly prevail in the intellectual property industry, which is why it is so fortunate that applying the correlated rights doctrine does not appear to require the same sort of legislative changes which were needed in the oil and gas industry. But even if there were needed, it is comforting to know that the applying the correlated right doctrine in the oil and gas law did not constitute taking as defined under the State and US constitutions.

⁴⁸⁰ Utah Code Title 40, Mines and Mining, Chapter 6 Board and Division of Oil, Gas, and Mining, Section 1 Declaration of public interest.

The third implication is that applying the correlated rights doctrine is less intrusive than other regulations which were utilised and held to be in keeping with constitutional property protection. Most notably the proration rules which were allowed government agencies to dictate production levels in the oil fields based on economic policies. This would be the intellectual property equivalent of compulsory licensing for economic reasons, which is far beyond what the correlative rights doctrine would require of intellectual property owners.

The final additional implication is that unlike water, oil and gas is perceived to be a highly competitive industry. And as an application of the correlated rights doctrine was eventually accepted in that industry, it is entirely possible for it to be accepted in the equally competitive industries which are based on intellectual properties.

With respect to comparisons between the oil and gas stages and intellectual property stage it is obvious that an application of an absolutist doctrine in intellectual property is most closely comparable to the first to capture doctrine in which dominated the early development of the oil and gas industry. In both cases the owners could behave in total disregard to how their behaviour impacted other owners of what was essentially an integrated resource. Including but not limited to appropriating the properties which effectively belonged to those other owners. While such behaviour undoubtedly assisted in the development of both fields, it also created substantial inequity and inefficiencies.

As with the water law, the application of the correlated rights doctrine in oil and gas law, would naturally correspond to the same application in intellectual property law. And just as its application improved both efficiencies and equity in oil and gas law, it could also do the same for intellectual property law.

7. An Example of Intellectual Property Issues and Solutions

Before addressing the specifics of the correlated rights doctrine and how it could be applied to intellectual property, it is worthwhile to provide a historical example of how patent holdup and patent holdout arise whenever strong or absolutist property rights are enforced on technologies which incorporate inherently integrated intellectual properties. Although much has been made of these problems in recent years under the title of "patent wars", neither represent a new phenomenon. Indeed, for as long as intellectual property rights have existed, some owners have invariably sought to abuse those rights and others have sought to counter that abuse through abuses of the judicial system. An excellent example of this was the patent disputes which arose as a result of one of the most famous innovations and involved two of America's most famous inventors Wilber and Orville Wright. A discussion of that dispute and the evolution of licensing in the aviation industry is provided to prove; the historical existence of the problems, the challenges of cross licensing agreements and how arrangements, very similar to what would be put in place under the correlated rights doctrine, eventually were put in place to solve them.

7.1 The Wright Patent War

In the early years of aviation history from 1910 to 1917 the Wright Brothers Company (Wright Co.) initiated a number of patent infringement actions which are often referred to as the Wright patent war.⁴⁸¹ The first legal case in this war took place in 1910 when the Wright Co. brought an action against Herring-Curtiss Co and Glen H. Curtiss, seeking a preliminary injunction preventing Glen Curtiss from manufacturing, selling or demonstrating a Curtiss aircraft which allegedly infringed the Wright Bros' 1906 patent covering the control systems on a powered aircraft.⁴⁸² Others would soon follow,⁴⁸³ the combination of which indicates that Wright Co. was attempting to secure a monopoly in the industry for themselves.⁴⁸⁴ Depending on whose perspective is taken; this desire for a monopoly was either a valid effort by the Wright Co. to

⁴⁸¹ Ronneberg, D. T. *The Wright Brothers' Patent lawsuits*, The Journal of Aviation/Aerospace Education & Research, (2012). 21(3). Retrieved from <http://commons.erau.edu/jaaer/vol21/iss3/8>; Kiernan, K. M. (2012). *The Wright Brothers vs The World*, The Journal of Aviation/Aerospace Education & Research, 21(3). Retrieved from <http://commons.erau.edu/jaaer/vol21/iss3/9>; <http://www.wrightstories.com/patent.html>;

⁴⁸² Wright v. Herring Curtiss. 177 F. 257 (C.C.W.D.N.Y. 1910)

⁴⁸³ Wright v. Herring Curtiss. 180 F. 110 (C.C.A. 2d 1910); Wright v. Paulham. 177 F. 261 (C.C.W.D.N.Y. 1910); Wright v. Claude Grahame (C.C.W.D.N.Y. 1910); Wright v. Aero Corp 128 F. 726 (C. W.D.N.Y. 1911); Wright v. Herring Curtiss. 204 F. 597 (C.C.W.D.N.Y. 1913); Wright v. Herring Curtiss. 211 F. 654 (C.C.A. 2d 1914); Suits were also filed in France, German and England.

⁴⁸⁴ Evidence of monopolistic intent can be found in the following: Jan 18th, 1908 letter to Glen Curtiss, "We did not intend, of course, to give permission to use the patented features of our machine for exhibitions or in a commercial way...The commercial part of our business to taking so much of our time that we have not been able to undertake public exhibitions. If it is your desire to enter the exhibition business we would be glad to take up the matter of a license to operate under our patents for that purpose."; Judge Hazed decision in Wright v Curtiss 177 F 257 granting injunction relief, "It further appears that the defendants now threaten to continue such use for gain and profit, and to engage in the manufacture and sale of such infringing machine, thereby becoming an active rival of complainant in the business of constructing flying-machines embodying the claims in suit, but such use of the infringing machine it is the duty of this Court on the papers presented to enjoin."

protect their intellectual property or an *anti-competitive* attempt at monopolisation. Before addressing this issue, it is necessary to provide some context about the period and the events that both proceeded and followed the Wright brothers' 1904 patent application, and subsequent enforcement actions.

First with respect to the actual innovation produced by the Wrights brothers. What cannot be ignored is that while the Wright brothers' contribution to aviation innovation was truly exceptional, there was a long history of aviation advances which proceeded their work and there were numerous parties working on the problem at the same time as the Wrights. This is significant because it quashes the notion of the Wrights as the sole inventors in the aviation industry. The similarity with earlier innovations is illustrated by Figures 3 and 4.

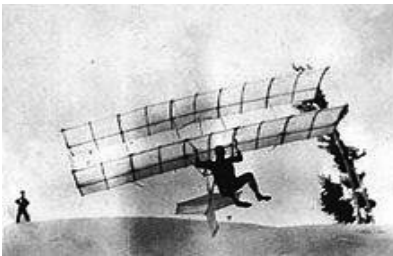


Figure 3 Chanute's hang glider of 1896 clearly showing a rear vertical and horizontal rudder.

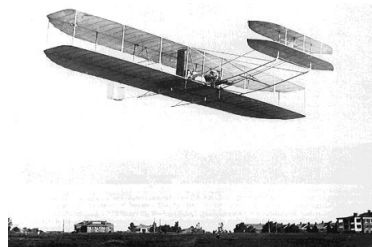


Figure 4 Orville Wright flying over Fort Myer 1908.

In fact, it turns out that there were many parts incorporated into the Wright's Flyer which were developed by other parties. These parts included the horizontal and vertical rudders, and the warped wings; all of which were critical to the Wrights Flyer. The vertical rudder is the vertical surface at the back of the aircraft that controls the left and right direction of the machine. The horizontal rudder is the horizontal surface of the aircraft which controls the up and down movement of the aircraft. Initially this was positioned at the front of the aircraft but within a few short years was moved to the back of the aircraft and it is now called the elevator.

The unique thing that the Wright brothers did was to better calibrate these parts and combine their controls in a way that allowed the equilibrium of the aircraft to be established. In particular they built a cable system that tied the movement of the warped wing to the rudder, which meant that controlling the aircraft in a turn became much easier. The practical effect these modifications was that it enabled them to achieve the first fully controlled powered flight at Kitty Hawk, while their competitors were still crashing shortly after take-off. Indeed, it was this coordinated control which formed the core of the claims under the Wright patent which was described as;

'invented certain new and *useful improvements in flying machine*, of which the objects of our invention are to provide means for maintaining or restoring the equilibrium or lateral balance of the apparatus, to provide means for guiding the machine both vertically and horizontally, and to provide a structure combining

lightness, strength, convenience of construction, and certain other advantages.¹⁴⁸⁵
[italics added]

With the key claim being the one in which the function of the warped wings and the rudder are combined.

'In a flying-machine, the combination, with an aeroplane, and means for simultaneously moving the lateral portions thereof into different angular relations to the normal plane of the body of the aeroplane and to each other, so as to present to the atmosphere different angles of incidence, of a vertical rudder, and means whereby said rudder is caused to present to the wind that side thereof nearest the side of the aeroplane having the smaller angle of incidence and offering the least resistance to the atmosphere, substantially as described.'¹⁴⁸⁶

The expectation of being granted a monopoly undoubtedly were derived from the adulation they received because for their successful flights. Although it is somewhat of an oversimplification, it is clear that those first amazing flights led to the presumption that the Wright patent must also include truly amazing innovations. A presumption that the Wrights actively promoted, as shown in the introduction of their complaint against Paulhan⁴⁸⁷;

'When hope of human flight ... had practically died out, and when men were ridiculed and reviled and laughed at for further attempting it and proposing it, Wilbur and Orville Wright, ... astonished and electrified the waiting world by actually, really and successfully rising from the ground with a heavier-than-air machine ridden by either of them in person, flying through the air, going whither they would, to the right or to the left, upward or downward and landing, as do the birds, softly and successfully.'¹⁴⁸⁸

And then for good measure added a lengthy description of the awards which they had received to prove that their efforts were truly spectacular.

"But first a word as to what happened throughout the world in recognition of this long-awaited-for achievement. The press of the country heralded it from ocean to ocean. and from the lakes to the gulf; the foreign press acclaimed it everywhere, the American people, through their Congress then assembled, sent this greeting to these modest inventor: "For their success in navigating the air;" the French Academy of Sport this recognition: "To the Conqueror of the Air, M.M. Wilbur and Orville Wright. the first to fly with an apparatus heavier-than-air driven by a motor;"... In addition, this achievement won for Wright Bros. Metal of Congress of the United States, ... the Legion of Honor of the French Republic, gold medal of the aeronautical societies of America. Great Britain, France, etc. and honorary membership in numerous societies, with honorary degrees from institutions of learning, both in America and Europe. Then

⁴⁸⁵ U.S. Patent # 821,393

⁴⁸⁶ *Id.*

⁴⁸⁷ Toulmin, H., *Wright Company Patent Litigation Briefs*; Wright v. Paulham; Brief for Complainant on Motion for Injunction, (1910)

⁴⁸⁸ *Id.* 7

followed commercial recognition by the purchase by the United States of one of their flying machines, with the right to use it for National purpose, while abroad similar recognition has taken place, both official and private or commercial. ... Thus the pioneering of Wright Bros. has been recognized"⁴⁸⁹

The problem with such statements were that they were attempting to conflate two separate achievements. While there can be no doubt that their flights were singular triumphant achievements which crossed the elusive technological threshold to controlled flying, their patented invention represented only a few new steps on an innovation path that had both predecessors and successors. As mentioned included in the Wright Flyer were many of the parts developed by earlier inventors, many of which were subsequently improved upon by other innovators in the seven years before the patent wars were commenced.

Although this self-promotion clearly impressed the judiciary,⁴⁹⁰ it did not have the desired effect on their competitors. As far as their competitors were concerned; the Wrights' achievements were not a signal to abandon the aviation industry to the Wrights; but rather a rather an incentive to advance their own efforts for fear of being left behind by the Wrights. A reaction which is precisely what the patent system is designed to produce. To the extent that those competitors incorporated Wright innovations into their aeroplanes they would certainly be infringing on Wright patents, but as the Wrights were incorporation the innovations of others in their aeroplane, the Wrights were also infringing on the patents of others. This could have been easily resolved by all parties recognising the inherently integrated nature of their innovations and seeking to put in place a cross licensing agreements which reflected the contribution of each party.

However, the Wrights appeared to have other ideas. Rather than seeking a reasonable royalty for the use of their patent and paying a reasonable royalty for their use of patents owned by others, they sought exclude everyone else from the industry with a single patent. A patent which in no way represented the totality of the innovations used before and after the first powered flight. The most unjust aspect of this behaviour is that if successful, it would have effectively appropriated the innovations of all other innovators to the Wright brothers.

Given that the Wright brothers were innovators themselves, this attempted appropriation would appear to run counter to the principles of cooperation and innovative recognition which existed at the time. There is however a very practical explanation for why the Wright brothers would engage in this kind of anti-competitive behaviour, and it relates to the involvement of external financiers. What should be remembered is that before 1909 the Wright brothers were just Orville and Wilber Wright and their flying machines. The quintessential example of innovators, as envisioned in popular culture. That changed in 1909 when they sold their patent rights to the newly established Wright Bros. Company.⁴⁹¹ The other investors in this closed

⁴⁸⁹ *Id.* 9

⁴⁹⁰ "District Judge Hazel Wright V. Herring Curtiss ""Newspapers of the country heralded as marvellous the success of the patentees, and published wide that human flight had been made possible and that the patentees were the first in the annals of the world to achieve success with a heavier than air flying machine. Public recognition of their success was subsequently made by scientific institutes and academies of high repute in this country and abroad. Medals were presented to the inventors by Congress, by the republic of France and by various aeronautical societies of Europe and America. *Such testimonials are entitled to weigh in support of the presumption of validity and practical utility.*"

⁴⁹¹ The sale provided the Wrights with for \$100,000 in cash, 40 percent of the company stock and a 10 percent royalty for every airplane built.

company were rich financiers, who invested \$1 million in what they were hoping would be the sole manufacturer of aircraft in the United States.⁴⁹² The fact that these financiers were referred to as Robber Barons provides a clear indication of how they conducted business.⁴⁹³ Another indications of how they intended to conduct business can be found in the press fillings covering the formation of the company. In these filings where there are ample indications that the new company would be actively engaged in litigation;

'The new company was incorporated yesterday in Albany, and its purposes, in addition to the commercial manufacturing of aeroplanes, is to protect all the Wright patents in the United States and Canada from possible infringement. The new formed company will have many legal fights on its hands in the effort to prevent infringements on Wright patents. ...Clinton R. Peterkin, one of the company Vice Presidents said that it is the purpose of the Wrights and the Board of Directors to maintain and defend the Wright patents against all comers. He said that the patents control the principles under which aerial flight is now accomplished and that one of the main purposes in forming the corporation with such a strong Board of Directors was to assist the Wrights in every way to maintain their patent rights. ...*During the investigation of the Wright patents the capitalist became convinced that the Wrights had a valid claim to patent rights of aeroplanes, monoplanes, and biplanes.*' [Italics added]⁴⁹⁴

It does not take much insight into the world of finance to recognise that these financiers would have encouraged the Wrights to pursue infringement actions as a pre-condition to their investment. Which would explain why the Wright brothers initiated an injunctive action against Curtiss just one month before the investment was finalized.

With respect to the justification of these infringement actions, the following observations can be made. If the goal of these action was to extract a reasonably royalty from the users of the Wright patents, they could have been considered a valid effort by the Wright Bros. to protect and profit from their intellectual property. However, as the objective was to prevent everyone, especially other aviation innovators from "manufacturing, selling or exhibiting" an "aeroplane, monoplane, and biplane", it appears obvious that this was an anti-competitive effort designed to eliminate all competitor from the aviation field.⁴⁹⁵ Further as the Wrights were abusing the courts to achieve this purpose, it would appear only fair to define the Wright Bros. Company as a "Patent Ogre".⁴⁹⁶

⁴⁹² The New York Times, *Big Men of Finance Back of the Wrights*, (1909) "Those who are most heavily interested in the Wright Company, ... were announced yesterday as being Cornelius Vanderbilt, Theodore P. Shorts, Allan A. Ryan, Morton F. Plant, Howard Gould, Andrew Freeman, Robert J. Collier, Andrew Freeman, Robert J. Collier, Edward J Berwind, August Belmont, and Russell A. Alger."

⁴⁹³ See: Matthew Josephson; *The Robber Barons* (Harcourt Brace and Company, 1934)

⁴⁹⁴ *Id.*

⁴⁹⁵ An intention that was referenced in the first case against Curtiss Wright v. Herring Curtiss. 177 F. 257 (C.C.W.D.N.Y. 1910) "It further appears that the defendants now threaten to continue such use for gain and profit, and to engage in the manufacture and sale of such infringing machine, "thereby becoming an active rival of complainant in the business of constructing flying-machines embodying the claims in suit, but such use of the infringing machine it is the duty of this Court on the papers presented to enjoin."

⁴⁹⁶ Term "Patent Ogre" is used here because the term "patent troll" does not adequately describe a situation where a patent owner is attempting to excluded other inventors, who have contributed their intellectual property to inherently integrated technology product, from participating in the industry which uses that product.

However, the investigation of the Wright brother cases would not be complete with just a definition of the initial behaviour. Of equal, if not greater importance is the consequence of that behaviour, to see if it has any relevance to modern jurisprudence. These consequences are part of and arise out of the various reactions and subsequent counter-reactions of the parties involved. The first of these consequences relates to the reaction of competitors and the courts. As mentioned above, the first action against Curtiss took place one month before the formation of the company. There was however another event that occurred just prior to that action which also may have contributed to its timing. That event was the flight of the June Bug.

In June of 1908 the Wright's turned down an offer to win the Scientific American Cup by making the first "*public flight*" of their aircraft over a distance of one kilometre.⁴⁹⁷ This provided Glenn Curtiss with the opportunity of using the June Bug, an aircraft he had designed and built in conjunction with the Aerial Experiment Association (AEA) to win the completion. Curtiss took to the air on July 4th and, flew 1.6 km in 1 minute and 40 seconds. This victory must have come as a shock to the Wrights, who had effectively monopolised the America's aviation imagination up to that date. It is difficult to predict what bothered the Wrights more; the media attention Curtiss got from the first public fight, Curtiss winning the Cup, or Curtiss winning the \$25,000 prize that came with the Cup. Regardless of the motivation, shortly thereafter the Wright's sent another letter to Curtiss warning that he did not have permission to the use of their aircraft control system for either exposition or commercial purposes. This letter was early evidence that they were attempting to establish exclusive control of the aircraft industry in America, although it did suggest that they might be willing to license Curtiss for exhibition purposes. Curtiss replied that he was not intending to enter the exhibition business, and that the matter of patents has been referred to the AEA. The AEA ignored this notice because the June Bug was using an aileron system and not the warped wing system,⁴⁹⁸ as well as having an independent control system rather than the coordinated control system patented by the Wrights. These differences did not matter to the Wrights who in their 1910 action insisted that the Curtiss improvements were covered by a broad interpretation of their patent claims.

It was the Wright's interpretation which was to prevail in the first case.⁴⁹⁹ Judge Hazel declaring in January of 1910 that;

'On the papers presented I incline to the view...that the claims of the patent should be broadly construed; and when given such construction the elements of the Wright machine are found in defendants' machine performing the same functional result. There are dissimilarities in defendants' structure—changes of form and strengthening of parts—which may be improvements, but such dissimilarities seem to me to have no bearing on the means to adopted to preserve equilibrium, which means are equivalent of the claims in suit and attain an identical result'⁵⁰⁰

⁴⁹⁷ All the earlier Wright flights were held in private at Kitty Hawk, where the public were not allowed to observe.

⁴⁹⁸ Matthew Piers Watt Boulton described ailerons in his 1864 paper *On Aërial Locomotion* and patent an aileron control system in 1868. However, this innovation was effectively lost to aviators in 1903, which is why the Wright's went for the more cumbersome warped wing solution.

⁴⁹⁹ *Wright v. Herring Curtiss*. 177 F. 257 (C.C.W.D.N.Y. 1910)

⁵⁰⁰ *Id.*

The irony of this decision is that if the same standard was used for the Wright's improvements, those also could have been deemed to have provided an equivalent means, however they were not invalidated because they resulted in a successful flight:

'True, some of the elements of the claims were old and are shown in prior gliding machines, but such machines without the combination which included a method of maintaining equilibrium or lateral balance were utter failures. Hence the prior patents and publications apparently do not anticipate the Wright, patent, and the claims are entitled to a broad and liberal construction.'⁵⁰¹

To sum up this decision: because the Wrights made the first successful flight this apparently secured for them special treatment. This special treatment was not lost on Curtiss who in June appealed the case by arguing that; 1) The Wrights patent was not entitled to a broad construction; 2) if it was broadly constructed it was invalid in view of prior art, 3) if properly constructed their machine did not infringe; 4) their mode of flying was different than the Wright's.

The Court of Appeals having heard conflicting evidence on these matters reversed Judge Hazel's injunction and returned the case for further proceedings and evidence.⁵⁰² During the rehearing Judge Hazel continues his preferential treatment of the Wright's by dismissing the invalidity defence; on the basis that prior earlier patent and prior art did not represent a complete combination that the Wright's had conceived,⁵⁰³ and then finding infringement even though Curtiss construction was different from the Wright construction and did not operate on the Wright principles.⁵⁰⁴ This amounted to a narrow interpretation of prior patents and art, followed by a broad interpretation of the Wright patent, which caught the Curtiss aircraft in narrow breach. Specifically, he found that because the Curtiss aircraft sometime used the rudder and the ailerons "*at the same time*" to maintain flight equilibrium, and this was equivalent to the Wright's method of maintaining flight equilibrium. This infringement was found even though the Curtiss controls separated the combined controls which were supposedly what made the

⁵⁰¹ Id. p259

⁵⁰² Wright Company v. Herring Curtiss 180 F. 110 (C.C.A. 2d 1910) "This is an appeal from an order granting preliminary injunction in a suit on the Wright patent... At the outset of appellee's brief it is stated that the essential question on which the controversy pivots is whether defendant in using the alleged infringing machines utilized the rear vertical rudder in conjunction with the ailerons or adjustable margins in maintaining lateral balance. In this case as in the other we have conflicting affidavits as to the question of fact, and for the reason expressed in the Herring Curtiss we think the order for preliminary injunction should be reversed, with costs."

⁵⁰³ Wright Company v. Herring Curtiss 204 F. 605 (C.C.A. 2d 1913) "They were not the first to conceive the idea of using monoplane or biplane surfaces for flying, nor the first to support two planes at their margins one above the other, or to use vertical tails of rudders for steering, or to place horizontal rudders forward of the machine to guide its upward and downward in its flight. The prior separate use of such elements is freely admitted by the patentees; but they assert, rightly, I think, that the patented combination was a new combination, preformed a new and novel result."

⁵⁰⁴ Id. 614 "While it is true, as pointed out herein, that he defendant have constructed their machine somewhat differently from complainant's and do not at all times and on all occasions operate the same on the Wright principle, yet the changes they have made in their construction relate to form only. They have constructed their machine so that it is capable of restoring equilibrium in substantially the same way as is the complainant's machine...they use the vertical rudder, not only to steer their machine, but to assist the ailerons in restoring balance."

Wright patent different from all previous patent and the fact that the Wright aircraft did not have ailerons.⁵⁰⁵

When Curtiss appealed this decision, the Appeals Court upheld the injunction decision stating that;

'As we are in full accord with the reasoning by which he [Judge Hazel] (and Judge Hand) reached the conclusion that the patent in suit is a valid one, that the patentees may fairly be considered pioneers in the practical art of flying with heavier-than air machines, and that the claims should have a liberal interpretation,'⁵⁰⁶

With hindsight this conclusion certainly appears prejudice as it provided the Wrights with liberal patent protections, whilst withholding that same liberal protection from prior patents. That is not to say that the courts should have found the Wright patents invalid, rather that they should have invalidated the claims which were proceeded by prior patents and art; and then narrowly interpreted those that remained. This would have left the Wrights with a smaller, but stronger set of patent claims. The smaller size of the claims would hopefully have restrained their impractical ambitions of attempting to reserve the entire American aviation industry for themselves. The stronger nature would have aided their enforcement efforts, not only because the courts proceedings would be less ambiguous but because their competitors would not have been so contemptuous (more respectful) of their property. Taken together this would have provided the Wrights with excellent licensing opportunities, from which they could have funded further advances in the aviation industry.

As it was, because the courts did not restrain the patent claims; this likely gave the Wrights a false sense of security, which led them and their financial backers to believe that they should be the sole producer of aircraft in America. It was this belief that drove them into expending an exorbitant amount of time, money in a doomed effort of creating a court mandated aviation monopoly. Time, money and energy which might have been better spent advancing the technology and which could have provided them with technological domination.

Naturally this decision also had a negative impact on their competitors and potential competitors. By interpreting the Wright claims so liberally the court was effectively providing the Wright Bros. Co. with a court mandated monopoly, and it was also assisting the Wright Bros Co. in their appropriation of third-party innovations. This left their competitors with a difficult choice; they could either abide by the decision which would mean that there would be no competitors and their innovations would have become the Wright Bros. Co innovations, or they could try and circumvent the decision in order to remain in the industry. Whether it was the unjust nature of the decision or that the potential rewards were simply too high to be abandoned, they decided to circumvent the decision.

Curtiss himself took a rather straight forward approach to circumventing the decision. After the final rejection of his appeal in 1914, he put the defendant company, Herring-Curtiss, into bankruptcy and founded another aeroplane manufacturing company named the "Curtiss Aeroplane and Motor Company" which manufactured aeroplanes which were slightly different

⁵⁰⁵ The Wrights included in their patent a passage that said they did not want their invention to be limited to the particular construction of the lateral margins of the aeroplane, which is why ailerons fell under a broad interpretation of their warped wing technology.

⁵⁰⁶ Wright v. Herring-Curtiss. 211 F. 655; (C.C.A. 2d 1914)

that the Herring and Curtiss models.⁵⁰⁷ Not coincidentally this strategy of slightly modifying the aircraft was recommended by his lawyer George Sheldon who had provided similar advice to Henry Ford, whom Sheldon had successfully represented before the same Judge in a patent dispute involving automobiles.⁵⁰⁸ The practical effect of these moves was that it forced the Wright Bros. Co. to re-litigate the infringement. This re-litigation was necessary because while the changes made by Curtiss could conceivably be covered by a liberal interpretation of their first claim, the first claim had not been cited in the former suits, and as such had not yet been adjudicated.⁵⁰⁹ Obviously this was a blatant effort to use "legal attrition" to avoid the injunctive relief prescribed by the court. That said it would appear to be the only rational and even the most appropriate response, to the Wright efforts to appropriate Curtiss innovations and monopolise the industry.

Despite winning the case it was not long after that Wright Co. dropped their strategy of attempting to create an aircraft monopoly and began to instead license their patents in return for a 20% royalty. With the revenues received from this royalty licensing Orville bought out almost all of the other shareholders in Wright Co.⁵¹⁰ It has been suggested in the Wright Brother's authorized biography that Orville's did this to eliminate the commitment to stay with the company that both he and Wilbur Wright had made when the company was established.⁵¹¹ A suggestion that is supported by his decision to sell the company after buying out the other shareholders.⁵¹² However an alternative explanation is just as likely.

That alternative explanation can be derived from a series of fatal crashes of Wright aircraft bought by the U.S. Army between 1912-1913. These crashes which resulted in 7 deaths called into question the safety and design of the Wright aeroplanes. A government investigation said the Wright C was "dynamically unsuited for flying," primarily because of its pusher engine design which tended to crush the pilot when they crashed.⁵¹³ Orville Wright cooperated with the Army investigation but resisted changing the design, presumably because it may have harmed the patent infringement suit against Curtiss.

Curtiss on the other hand had no hesitation in changing his designs, particularly when the Signal Corp banned pusher motors. This not only allowed him to make better aircrafts and continue to make sales to the Signal Corps, it also provided him with a better defence against Wright Co. efforts at a court mandated monopoly. The practical effect of this was that by the time 1915 rolled around, Orville Wright must have known that the aircraft he was building were

⁵⁰⁷ Since the decision of the Court enjoined him from using two ailerons operating simultaneously in opposite directions, Curtiss's new aeroplanes had separate controls for each aileron. While this structure might be covered by a liberal interpretation Claim 1 of the Wright patent, Claim 1 had not been cited in the former suits, and so had not as yet been adjudicated.

⁵⁰⁸ Cecil R. Roseberry, Glenn Curtiss: *Pioneer of Flight* 62 (1972) at 357. Judge John R. Hazel of the District Court of Southern New York, who in 1900 had recognized George Selden as the inventor of the automobile, also upheld the Wrights' claim on the scope of their airplane patent in 1910 and again in 1913. On appeal by Henry Ford, Selden's patent was later held valid but not infringed, while Hazel's decision in the Wright-Curtiss litigation was upheld on appeal in 1915.

⁵⁰⁹ It is worth noting that because the Wrights were only seeking injunctive relief and they were not awarded damages in the 1913 decision. If they had sought damages which, they would have done if they were only seeking a fair payment for the use of their intellectual property, they could have bankrupted Curtiss personally which would have eliminated him as a competitor.

⁵¹⁰ Wilbur Wright died of typhoid fever in 1912

⁵¹¹ Fred C. Kelly; *The Wright Brothers*, (1943)

⁵¹² In 1915, Orville gave an option to a small group of eastern capitalists that included William Boyce Thompson and Frank Manville, the deal was closed in October 1915.

⁵¹³ Rebecca Robbins Raines, *The Signal Corps Takes to the Air*, in *Getting the Message Through*, (Center of Military History, 2006)

inferior to the Curtiss aeroplanes, not to mention the airplanes which were being produced in Europe at the time.⁵¹⁴ The European aircraft industry having not been subject to the same degree of protracted legal battles clearly demonstrated that integrating the innovations of multiple creative efforts; resulted in much faster and much better technological advances. Figure 5 providing a clear indication of the lack of creativity which had engulfed Wright Bros, when compared their 1914 model C, to those of its competitors.

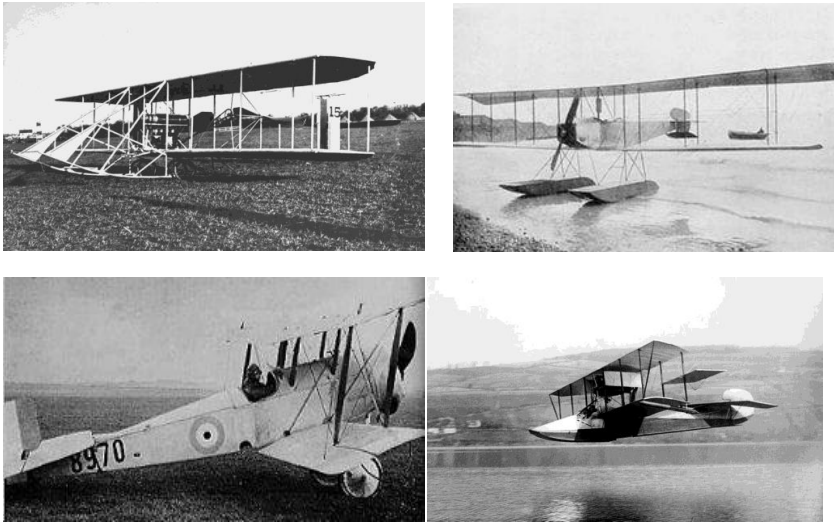


Figure 5: 1914 Aircraft Competition; Clockwise; Wright Model C, Avro 501, Curtiss Model F, Bristol Scout.

These practical considerations clearly outweighed the legal victory achieved in January of 1914. Faced with an unrelenting tide of technological advances made and the loss of their technological leadership position, there was no way that the Wright Co. could maintain their ambitions to be the sole manufacturer of aircraft in America. For even if subsequent court cases upheld the liberal interpretation of their patent, there was a high probability that the competitors who they had forced out of the market, would deny Wright Co. the use of their patented innovations, which would mean that Wright Co would be doomed to producing sub-standard aircraft. This new reality was of course entirely inconsistent with the initial plans for establishing a monopolistic aircraft company in the US and may have opened up the Wrights to charges of investor misrepresentation. These circumstances provide a quite compelling alternative argument as to why Orville Wright bought back the shares.

As to why two years later he sold the company and got out of the aviation industry, this can be put down to too many potential causes. First there was the death of his brother, then there was also his lack of enthusiasm for daily corporate management or the desire to use the money for other business interests, but it could also have been because he was disillusioned with the

⁵¹⁴ Tom D. Crouch, *The Bishop's Boys: A Life of Wilbur and Orville Wright* "The standard Wright production of 1913, the Model C, was an obsolete machine. Compared to contemporary European aircraft, it was slow, tail-heavy, and unstable. Other flying machine builders, notably Esnault-Pelterie and Bleriot, pioneered a natural control arrangement combining the use of a stick and rudder pedals. Orville retained the cumbersome and confusing system of twin levers developed in 1908."

seemingly never ending legal and financial intrigue involved in the industry. Regardless of why Wilber sold his interest, the Wright Martin Company continued to engage in active litigation, demanding \$1,000 per aircraft from every airplane manufacturer operating in the United States.

7.2 The American Aeronautics Association

To the extent this litigation threat remained an impediment to the advancement of the United States airplane industry; and particularly as the government was examining its aircraft production needs for the impending American involvement in World War 1, the US Government set up a National Advisory Committee for Aeronautics. The purpose of this committee was to consider and advise the President and the departments on aeronautical problems and to consider and devise some plan to remedy the existing difficulties.⁵¹⁵ The 'Committee forthwith proceeded to consider the problem confronting the Government and on March 23, 1917, the subcommittee on patents of the National Advisory Committee rendered a report recommending the formation of the Aircraft Manufacturers Association among all aircraft manufacturers and suggesting the details of a cross-license agreement among its members.⁵¹⁶ While the Wright Martin Company was opposed to the agreement, they eventually embraced it after Congress began to consider using a compulsory purchase to end the patent disputes.⁵¹⁷

On June 14th a subcommittee on patents and representatives of Wright Martin and Curtiss Burgess met and approved a plan and the legal counsel of both companies worked together to prepare a form of agreement. One month later, on the 10th of July, this form of agreement was presented at meeting which included the subcommittee on patents, various airplane manufacturers and representatives of the Wright and Curtiss Companies. The form of agreement included the rules for membership for and general terms of the proposed cross licensing agreement.⁵¹⁸

The proposed Association would be made up of eleven shareholders who 'were responsible manufacturer of airplanes, airplane engines, or parts and accessories used in airplanes; a responsible manufacturer who intends to become bona fide producer of airplanes or airplane engines, parts, or accessories; or a manufacturer to whom the Government has given a contract for the construction of ten or more complete airplanes or airplane engines.'⁵¹⁹ These members and only these members would be able to participate in the cross licensing agreement.

The cross-licensing agreement itself specified that a;

'licenses to use patented devices for airplanes owned or controlled by it [its members] and called for the payment of a royalty to the association at the rate of \$ 200 an airplane until October 1933. ... [The Association] was authorized to retain up to 12 1/2 per centum of all royalties received for the purpose of meeting its expenses of administering the agreement and for other purposes. ... the remaining 87 1/2 per centum of the royalties received from all sources in declared proportions of 67 1/2 percent to the Wright-Martin Aircraft Corporation and 20 percent to the Curtiss-

⁵¹⁵ These quotes are contained in court records covering *Manufacturers Aircraft Assoc., Inc., v. United States*, No. J-569, United States Court Of Claims, 77 Ct. Cl. 481; 1933 U.S. Ct. Cl. LEXIS 277, May 8, 1933 at 484-5

⁵¹⁶ *Id.* at 485

⁵¹⁷ *Id.* at 490-91.

⁵¹⁸ *Id.*, at 486

⁵¹⁹ *Id.* at 487

Burgess Airplane & Motor Corp., Inc. The agreement also contained a provision to the effect that within the period prior to November 1933, whenever the payments to Wright and Curtiss had equalled a maximum of \$ 2,000,000 for each, the rate of royalty to be paid to plaintiff was automatically to change to a sum not exceeding \$ 25 an airplane'⁵²⁰

In addition to the initial 130 patents covered by the cross-licensing agreement, it also included a mechanism to cover patents granted after the formation of the Manufacturers Aircraft Association. Under this mechanism these “after acquired” patents would be eligible for royalties if they covered innovations which;

'secures the performance of a function not before known to the art or constitutes an adaptation for the first time to commercial use of an invention known to the industry to be desirable of use but not used because of lack of adaptation, or is otherwise of striking character or constitutes a radical departure from previous practice, or if either the price paid therefore or the amount expended in developing the same is such as to justify such compensation.'⁵²¹

The determination as to if a patent met the requirements for inclusion was to be undertaken by a formal arbitration procedure which involved a 3-member board of arbitrators, which also would set the appropriate royalty rate.⁵²²

It is worth noting that Association's members were also allowed to license their patents independently to non-members so long as the terms were no more favourable than those provided to members. Further, any member could withdraw from the Association at any time, but any patents which were previously covered by the cross-licensing agreement, would remain available as part of the cross- licensing arrangements.⁵²³ Taken together the Association and the adoption of the cross-licensing agreement effectively created a patent pool for licensing patents essential to the manufacturing or sale of aircraft in America.

While there are many that viewed this as a simple method of reducing transaction or licensing costs,⁵²⁴ not long after its creating it became subject of anti-trust investigations. Ironically the initial investigations in 1935 had the support of President Roosevelt, who had been the Secretary of the navy when the originally Associations and cross licensing agreements had been structured and signed.⁵²⁵ The suspicions that there was some sort of anti-competitive

⁵²⁰ *Id.* at 488

⁵²¹ George Bittlingmayer, *Property Rights, Progress, and the Aircraft Patent Agreement*, 31 J.L. & Econ. 227, 232-33 (1988). at 233 (herein after: Bittlingmayer, *Aircraft Patent Agreement* (1988))

⁵²² Merges, *The Case for Patent Pools* (2000)

⁵²³ Bittlingmayer, *Aircraft Patent Agreement* (1988) at 233

⁵²⁴ Dustin R. Szakalski, *Progress in the Aircraft Industry and the Role of Patent Pools and Cross Licensing Agreements*, *Journal of Law and Technology* Vol 15-1 (2011)

⁵²⁵ Franklin D. Roosevelt, *State of the Union Address* 3 January 1938: "There are practices today which most people believe should be ended. They include tax avoidance through corporate and other methods, which I have previously mentioned; excessive capitalization, investment write-ups and security manipulations; price rigging and collusive bidding in defiance of the spirit of the antitrust laws by methods which baffle prosecution under the present statutes. They include high-pressure salesmanship which creates cycles of overproduction within given industries and consequent recessions in production until such time as the surplus is consumed;[the use of patent laws to enable larger corporations to maintain high prices and withhold from the public the advantages of the progress of science]; unfair competition which drives the smaller producer out of business locally, regionally or even on a national scale; intimidation of local or state government to prevent the enactment of laws for the protection of

collusion between members of the Association at that time was not at all surprising, as it was widely believed that the Great Depression had resulted from the misbehaviour of corporations who were intentionally rigging the markets against American Consumers.⁵²⁶ Regardless of the suspicion the Association and its patent pool it remained active until 1975, when it was found to be in breach of the nine-no-noes⁵²⁷ and dissolved under a consent decree.⁵²⁸ This requirement to abide by prohibitions on how property is used being consistent with the prevailing view that governments should regulate property use by proscribing certain types of behaviour.⁵²⁹ Of note in the 1975 decision was the concern that the Association's cross licensing agreements reduced competition in research and development.

In the Final Judgment provided in the consent decree the members of the Manufacturers Aircraft Association ordered 'to take appropriate steps to wind up the affairs, and to terminate the existence, of the defendant Manufacturers Aircraft Association,' including cancelling each license issued pursuant to the cross-licensing agreement, within ninety days.⁵³⁰ Further the decree prohibited all members who were patent owners from either forming or participating in any future patent pools or cross licensing agreements with respect to all 'the existing and/or future airplane patents of primary significance.'⁵³¹

7.3 Mandatory Licensing Provisions

Having effectively banned coordinated action of the patent owners, the decree subsequently ordered mandatory licensing provisions which the members had to follow. These provision included an obligation to offer a 'a nonexclusive, non-discriminatory license' to any party which had previously participated in the cross licensing arrangements, on terms 'no less favorable to the licensee' than the royalty terms provided under the cross licensing agreement.⁵³² This provision being supported by additional mandatory reciprocal licensing provisions which required licensees who were granted a licence from former Association members 'as a condition of receiving such a license,' to license any aircraft patents held by the licensee to the Association members if the court determined that 'it would be equitable or in the public interest to permit imposition of such condition.'⁵³³ In addition to instigating mandatory licensing the decree also

labor by threatening to move elsewhere; the shifting of actual production from one locality or region to another in pursuit of the cheapest wage scale." Italics added

⁵²⁶ See Chapter 14: Directed Property Stage

⁵²⁷ Bruce B. Wilson, Deputy Assistant Attorney Gen., Remarks before the Fourth New England Antitrust Conference, Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions (Nov. 6, 1970). The "Nine No-Nos" were: (1) tying the purchase of unpatented materials as a condition of the license, (2) requiring the licensee to assign back subsequent patents, (3) restricting the right of the purchaser of the product in the resale of the product, (4) restricting the licensee's ability to deal in products outside the scope of the patent, (5) a licensor's agreement not to grant further licenses, (6) mandatory package licenses, (7) royalty provisions not reasonably related to the licensee's sales, (8) restrictions on a licensee's use of a product made by a patented process, and (9) minimum resale price provisions for the licensed products.

⁵²⁸ Bittlingmayer, Property Rights, Progress, and the Aircraft Patent Agreement, at 234.

⁵²⁹ See Chapter 14; Restricted Property Stage

⁵³⁰ *United States v. Mfrs. Aircraft Ass'n, Inc.*, 1975 WL 814, at 2 (S.D.N.Y. Nov. 12, 1975).

⁵³¹ *Id.* at 2, 4. The members covered by this injunction were: Aeromarine, Curtiss-Burgess, L.W.F. Engineering, Standard Aircraft, Sturdevant, Thomas-Morse, Wright Martin, and Dayton Wright Company. And while it did not apply to none members like Boeing, Lockheed-Martin, Northrop Grumman, Airbus, Bombardier Aerospace, Embraer, General Electric, and Rolls-Royce, it can be assumed that they would face a similar injunctive action if they were to set up a new patent pool.

⁵³² *Id.* at 2, 3.

⁵³³ *Id.* at 3

provided that any licensee the right to request from any former Association member such technical information that 'persons reasonably skilled in the art may need to practice the inventions claimed in the licensed patent by any mode used by the defendant in practicing such invention.'⁵³⁴ after the receipt of a license. Although this directive would appear to be redundant, as one of the principle requirements of patent law is that a patent owner provide the technical knowledge required to work and invention, its presences clearly indicates a concern that former members were not complying with that requirement.

After the Association was wound up there was once again a situation whereby owners and users would be required to negotiate individual licences on a case by case basis, albeit on terms governed by the provisions include in the decree. Under these terms any intellectual property essential to the development of modern aircraft owned by former Association members were effectively subject to mandatory licensing on what can be described as Fair, Reasonable and Non-Discriminatory or "FRAND" terms. That these provisions were not applicable to entities which were not members of the Association, does not mean that they did not honour this practice. Given that since the time of the decision there has never been anything which can be described as a patent war between aircraft manufacturers, this would appear to indicate that most, if not all, owners of aircraft patents owners have consistently offered licensing terms which do not include unreasonable royalties demands or anti-competitive conditions.

Evidence of the fact that the practice of mandatory FRAND licensing was adhered to in the aviation industry can be found in the 2005 European Union Commission Decision relating to the merger of Boeing and McDonnell Douglas.⁵³⁵ The Case was subject to an EU Commission review because at the time of the proposed merger 'Boeing would have increased its market share of for large commercial aircraft from 64% to 70%.⁵³⁶ Initially the Commission opposed the merger for two reasons. First because of its potential effect on suppliers and buyers. Second because of; concerns about U.S. government subsidies of research and development of military aircraft would provide the merged companies with a competitive advantage over Airbus. After the merger Airbus would be their only competitor in commercial aircraft, and there were concerns that the merged entity could use the combined patent portfolios of the two companies to forestall future competition.

'There are more than 500 published patents which belong to Boeing and might be of relevance for commercial aircraft. MDC is estimated to hold around 150 such patents (17). 86 Boeing patents and 26 MDC patents could potentially restrict access to important future technology.'⁵³⁷

It should be noted that prior to merger decision both Boeing and Airbus were able to develop their aircraft businesses even though they were not part of the former Association and to do so they must have used the intellectual property which was essential to the manufacturing of aircraft owned by others. This observation proves that were they able to secure licensing agreements for essential intellectual properties, which did not include unreasonable terms and conditions which would have prevented them from effectively competing in the market. While these licensing agreements are not public, this conclusion is also supported by the absence of

⁵³⁴ *Id.*

⁵³⁵ Commission Decision of 97/816, 1997 O.J. (L 336) 16, 19-20

⁵³⁶ *Id.* para 54

⁵³⁷ *Id.* para 102

extensive patent litigation in the aircraft industry prior to the merger. As such it can be assumed that it was not just the legal obligations established when the Association was wound up that encouraged owners to offer licenses on a FRAND basis, but good business practices. Regardless of the rationale for offering FRAND licenses, what is clear from the merger decision is that after Boeing made a commitment to continue to offer FRAND licensing terms, the Commission changed its decision and authorised the merger. The Boeing Commitment being articulated in the decision as follows:

'Boeing will, upon request by a commercial aircraft manufacturer, license on a non-exclusive, reasonable royalty-bearing basis, any 'government-funded patent' which could be used in the manufacture or sale of commercial jet aircraft. Boeing will also license the know-how related to such a patent which is necessary for the full, effective and rapid exploitation of the patent. 'Government-funded patent' means any patent which claims an invention conceived or first actually reduced to practice by Boeing in the performance of one or more of its contracts with the US Government, and which Boeing legally may so license.

Boeing also will license on a non-exclusive, reasonable royalty-bearing basis any blocking patent, including the related know-how as defined in the first paragraph, to another aircraft manufacturer which agrees to similar terms for cross-licensing of its blocking patents.

If Boeing and the other commercial aircraft manufacturer cannot agree on the royalty or whether the patent is a 'government-funded patent' which could be used in the manufacture or sale of commercial jet aircraft or whether the patent is blocking, such disagreement shall be submitted to independent arbitration under terms and procedures to be mutually agreed between Boeing and the other manufacturer.⁵³⁸

Included in this commitment is not only an undertaking by Boeing to license any government funded or blocking (essential) intellectual properties on a FRAND basis, but also a reciprocal requirement that other owners of aircraft related intellectual properties would do the same if they wanted to receive such a license from Boeing. As Boeing is the owners of a significant number of essential intellectual properties, such an arrangement effectively ensures that all practicing entities would license on FRAND terms. Whether non-practicing entities would do the same, is of course debatable as they would not need a license to Boeing's portfolio of intellectual properties.

To the extent that this brief history of intellectual property rights in the aircraft manufacturing industry represents a framework for the general evolution of intellectual property right, there would appear to be a number of observations which can be drawn from it.

7.4 Lessons from the Aircraft Industry

The first of these is that most advanced technologies rely on inherently integrated or correlated intellectual property which is provided by the creative efforts of numerous inventors and is seldom based on the creative efforts of a single entity, regardless of how brilliant they

⁵³⁸ *Id.* at para 117

are. This does not mean that there are not significant thresholds overcome and advances made by a single inventor. Certainly, in the case of the Aircraft industry, the Wright Brothers' creative efforts with respect to coordinating all the controls and improving power of the propellers overcame a huge threshold by facilitating the first controlled flight. However, those very inventions would not have been possible without numerous inventions developed by others prior to and the concurrent with their own efforts.

The second observation which can be drawn from this history is that it is generally not the inventors who abuse their intellectual property rights to appropriate rewards from the intellectual property of others, but rather their financiers. In the case of the Wright Brothers it is matter of public record that they started to engage in patent litigation just before they secured investors for the project. Prior to such investments they appeared to be perfectly willing to focus more on the inventive process, than curtailing competition. Naturally there is nothing wrong with litigating to ensure that an inventor is properly compensated for the use of their intellectual property. However, using that intellectual property to try to secure a monopoly in an industry where multiple inventors have contributed to the technological product, is an abuse of intellectual property rights which most inventors would reject, just as they would reject someone else try to appropriate the rewards from their efforts from them. Conversely the fact that such behaviour can be considered a profit maximizing method makes it entirely consistent with investor interests and as such would be perfectly acceptable to them.

The next and one of the most important observation from an inventive prospective, is that granting correlated patent owners with absolute intellectual property rights will likely result in inferior technological products. Evidence of this can be seen in photos of the 1914 aircraft provide earlier, which clearly illustrates how far behind the Wright Brothers were in aircraft development 10 years after their initial success. This lack of development progress being in no small part due to the fact that their effort to prevent their competitors from using their patents obstructed their ability to gain access to intellectual property from those same competitors. Why after all should those competitors license them, when they were seeking to eliminate them from market.

A related observation to the former is that when faced with abusive licensing demand, competitors will quite understandably resort to abusive legal procedures to avoid those demands. Evidence of this is available in the form of Curtiss's reaction to the Wright Brother's litigation. Once Curtiss had exhausted the appeal process he simply put the defendant company "Herring-Curtiss" into bankruptcy and founded another manufacturing company named the "Curtiss Aeroplane and Motor Company". While this legal manoeuvre is more extreme than engaging in the legal attrition which is practiced today, it highlights the willingness of other inventors to engage in any available defence, including abusive legal practices, in order to avoid being held hostage by an abusive intellectual property owner.

The next observation with this history relates to the movement away from an absolutist right regime, to a government directed regime. While it could be argued that the Association was a voluntary arrangement, it is clear that because of the government's buying power, it was the effectively the Subcommittee on Patents which insisted on the creation of the Association and the determined the terms of the cross-licensing arrangements adopted by it.

The next observation is that; while the Association and its cross-licensing agreement did resolve the underlying anti-commons tragedy faced by the industry, it did so in a biased manner which was discriminatory in nature and prevented the active participation of a number of

potential participants in the industry. The bias is evident in the favourable aggregate royalty rate which was established in the agreement. It should be recalled that prior to the Association Wright Bros. Co. were demanding \$1,000 in royalty per aircraft for their own patents. To the extent that the Government forced all the Association to accept \$200 per indicates a huge discount on the what would have been a reasonable royalty payment. This bias obviously favoured the government over the aircraft manufactures. It was discriminatory because the agreement provided for payment of royalties to only two of the initial eleven members who owned patents, Wright-Martin and Curtiss-Douglass. That the other nine owners were denied royalties for the use of their patents is clearly discriminatory. That the Association and agreement prevented the participation in the industry of certain parties is directly connected to the non-payment of royalties to other parties. Clearly if independent inventors were not able to receive any royalties from their inventions, it would only be those who could make money on manufacturing, who would have an incentive to develop advances in the aircraft industry.

The penultimate observation is that patent pools have an inherent potential for anti-trust behaviour. The main concerns being that; 1) those in the pool may try to prevent outsiders from contributing to the pool, 2) the pool may not properly value the individual contribution it and 3) a pool forces users to purchase all of the patents in the pool, many of which may not be needed. It is the first two concerns which are of the greatest significance from an intellectual property owner's prospective. Obviously if they are unable to have their property include in a pool which defines the technical requirements of an industry, they will be will effectively foreclosed from participating in that industry. Alternatively, if their properties are included; but they do not receive revenues equivalent to the proportional value that their properties contribute to the aggregate value, then their value contributions will have effectively been appropriated by others. This appropriation can happen in three ways. First the pool may undervalue the aggregate, in which case it is the pool licensees or users who are appropriating value. Second their proportional contribution may be undervalued in which it is some other pool member or members who are appropriating their rewards. Third it may be that both the aggregate and their contribution which are undervalued, in which case both users and possibly other contributors are appropriating the value of their contribution. Conversely the third concern is primarily applicable to licensees or users as forcing them to purchase usage rights to patents that they do not need may increase their costs. However, it would also be of concern to contributors if their proportion of the aggregate is diluted, because some of that aggregate revenues is being paid to owners of redundant patents which provide no value to the technological product.⁵³⁹

The final observation that can be discerned from this history is that given most owners aircraft intellectual properties are effectively committed to provide grant a FRAND license to any party who is engaged in aircraft manufacturing, this situation is not that different from the outcome which would occur if the aircraft industry was governed by the correlated rights doctrine. Indeed, if applied the doctrine would specify that: *As multiple parties have individual property claims on an inherently integrated intellectual property needed to manufacture aircraft, each is legally entitled to their proportional share of the technological value of all aircrafts manufactured and the law should protect that share from being appropriated by others,*

⁵³⁹ It is worth noting that most governmentally sanctioned standardization organization only decide on whether intellectual products should be included in the technological standard, relying on commitments of contributors to license on a FRAND basis to sort out pricing issues. As such they do not represent patent pools.

including other owners. The main difference between current state of affairs and applying the doctrine being an application of the doctrine, would also apply to non-practicing entities.

8. Defining and Applying Correlated Intellectual Property Rights

Before going into the specifics of defining an application of the correlated rights doctrine it is useful to underscore the difficulties which judges are faced with whenever they are adjudicating correlated intellectual property disputes. At the forefront of this debate has been Chief Judge Randall R. Rader who at a 2012 intellectual property forum made the following statement;

'The problem is not the character of the party, not the term non-practicing entity, the problem is when anybody sues to obtain more than the patent is worth. The problem is asserting a \$10,000 patent to obtain millions of dollars. The real key comes in finding the proper valuation of advances, small advances deserve small returns and too often we have allowed small advances to obtain disproportionate results. It's the same problem regardless of who is doing it, and that is what we need to address, is to make sure we properly value the technology.'⁵⁴⁰

In this statement by Chief Judge Rader is acknowledging a change in circumstance by pointing out that not all innovations can be represented as standalone properties and that some are merely small advances in existing properties, which although he does not use the term, is essentially the definition of correlated intellectual properties. In addition to acknowledging a change in circumstances; he also provided a critical insight by pointing out that it is not the nature of the owner which needs to be addressed, but rather the behaviour of the owner or more appropriately the "misbehaviour of the owner".

Another prominent judge which has expressed concern about the state of the law is Judge Richard Posner, who decided *Apple v. Motorola*.⁵⁴¹ This case focused on amount of damages which should be granted when correlated intellectual properties were in dispute. Despite its name this case really represented one battle in an ongoing litigation war between two leading competitors in the field of mobile telecommunications, Apple and Google, both of which were which were relative new entrants to the field.⁵⁴² In this lawsuit Apple was asserting four patents and Motorola was countersuing over one patent. While there were valid questions about the infringement of the patents being asserted on both sides, Judge Richard Posner ordered the case dismissed with prejudice on what can be described as a technicality. That technicality being that neither party had provided sufficient proof of damages, when they had a chance to do so, as demonstrated in the following sentences;

'By failing to present a minimally adequate damages case, Apple has disabled itself from arguing that damages would not provide a complete remedy, going forward in the form of running royalties, as well as backward.... In fact neither party is entitled to

⁵⁴⁰ Chief Judge Randall R. Rader, IP Leaders Forum, Aug. 15, 2012

⁵⁴¹ *Apple, Inc. v. Motorola, Inc. et al*

⁵⁴² Although Motorola was a long time mobile communication equipment provider it had recently been acquired by Google who were using Motorola's patent portfolio in its battle with Apple.

an injunction. Neither has shown that damages would not be an adequate remedy. True, neither has presented sufficient evidence of damages to withstand summary judgment—but that is not because damages are impossible to calculate with reasonable certainty and are therefore an inadequate remedy; it's because the parties have failed to present enough evidence to create a triable issue. They had an adequate legal remedy but failed to make a prima facie case of how much money, by way of such remedy, they are entitled to. That was a simple failure of proof.⁵⁴³

It is worth noting that it was entirely within the authority of Judge Posner to provide the parties with a chance to make up for this deficiency, but he did not to do so and instead dismissed the case with prejudice. What this implies is that the technical rational was likely only an expedient justification for a more substantive concern that Judge Posner had with the case and other cases like it. That concern revolving around the entitlement to injunction or excessive royalties for integrated intellectual property in general and standard-essential patents in particular. This implication being confirmed by comments included in his final opinion on the case which specifically address these substantive issues.⁵⁴⁴ In this opinion he questions an intellectual property owner's entitlement to injunction by referring to a recent Federal Trade Commission a policy statement on injunctive relief where they detailed the potential economic and competitive consideration that should be made relative to the impact of injunctive relief on disputes involving SEPs [standard essential patents].⁵⁴⁵ The specific concern expressed by Judge Posner in his opinion being as follows;

'a royalty negotiation that occurs under threat of an exclusion order may be weighted heavily in favor of the patentee in a way that is in tension with the RAND commitment. High switching costs combined with the threat of an exclusion order could allow a patentee to obtain unreasonable licensing terms despite its RAND commitment, not because its invention is valuable, but because implementers are locked in to practicing the standard. The resulting imbalance between the value of patented technology and the rewards for innovation may be especially acute where the exclusion order is based on a patent covering a small component of a complex multi-component product. In these ways, the threat of an exclusion order may allow the holder of a RAND-encumbered SEP to realize royalty rates that reflect patent hold-up, rather than the value of the patent relative to alternatives.'⁵⁴⁶

Inclusion of this comment reflecting a sentiment in judicial circles that precedents which grant almost automatic injunctive relief, are contributing to inequitable outcomes. A sentiment being echoed by Judge Posner in an article he authored shortly after he dismissed the case. In that article he makes the following comments;

⁵⁴³ *Id.*

⁵⁴⁴ APPLE, INC. and NeXT SOFTWARE INC., v. MOTOROLA, INC. and MOTOROLA MOBILITY, INC., No. 1:11-cv-08540, OPINION and ORDER of June 22, 2012

⁵⁴⁵ "Third Party United States Federal Trade Commission's Statement on the Public Interest," filed on June 6, 2012, in *In re Certain Wireless Communication Devices, Portable Music & Data Processing Devices, Computers & Components Thereof*, Inv. No. 337-TA-745

⁵⁴⁶ *Id.*

“Patent trolls are companies that acquire patents not to protect their market for a product they want to produce -- patent trolls are not producers -- but to lay traps for producers, for a patentee can sue for infringement even if it doesn't make the product that it holds a patent on.”⁵⁴⁷

Obvious by challenging injunction entitlement, Judge Posner is indirectly challenging the capacity of plaintiff to extract excessive royalty demand from defendants. But his challenge to this excessive royalty does not end with his challenge to injunction entitlement. It he also challenges these same demands when it comes to calculating damages for past infringement. In his opinion he takes specific issue with the notion, that there is no linear correlation between damage requests and the number of patents being infringed. The clearest annunciation of this challenge in his opinion being as follows;

‘if Apple had wanted to license any of the patents in Motorola’s standards-essential portfolio, the license fee would have exceeded the product of the percentage of the portfolio represented by the patent and the value of the entire portfolio. Suppose the portfolio contained 100 patents and they would command a reasonable royalty of \$700 million to a firm that licensed all 100. One patent is 1 percent of 100 patents and 1 percent of \$700 million is \$7 million. But according to Donohoe’s declaration, the license fee for that single patent, if licensed on its own rather than as part of a package deal that comprised the entire portfolio, would be “up to” 40 to 50 percent of the royalty for the entire portfolio—that is, up to \$350 million. That “up to” covers a lot of ground. Even a royalty of only \$14 million would be mathematically disproportionate (Donohoe’s term is “nonlinear”) for using a single patent in a portfolio of 100 patents worth in the aggregate a \$700 million royalty, because \$14 million is 2 percent of \$700 million rather than 1 percent (1 out of 100 patents). How to pick the right nonlinear royalty?’⁵⁴⁸

While Judge Posner does not answer the question which he posed, it is perhaps sufficient that he asks the question in the first place. For by asking the question he is indicating that he is not satisfied with the existing solutions and is open to the possibility for consideration of alternative solutions. That fact that both judges are open to new solution as to how to determine reasonable royalties is obviously quite encouraging, even if they do not address the problem as being specifically related to an evolution of the innovation process.

When looking at Judge Posner’s decision it appears clear that one of the biggest obstacles to finding a solution has been the predisposition to try and apply singular rules to what is a diverse set of patented intellectual properties. No one should be surprised that this predisposition results inequitable outcomes, any more than they should be surprised if singular rules were used in any other body of law.

While these inequity outcomes have always existed in intellectual property law, they have for the most part been ignored because historical most outcomes were equitable. This equity being derived from the fact that rules based on exclusive rights were being applied to cases which primarily involved standalone intellectual property. What has changed and made this

⁵⁴⁷ Richard Posner, “*Why There Are Too Many Patents in America*”, The Atlantic, July (2012)

⁵⁴⁸ *Id.*

inequity less tolerable, is the frequency of its occurrence. A frequency of occurrence which can be directly attributed to the fact that correlated intellectual property has replaced standalone intellectual property as the dominate form of intellectual property.

Given this change in the dominate nature of intellectual property, one way of reducing inequitable outcomes would be to simply change the singular rules which is applied, to one which is more appropriate for correlated intellectual properties. However, such a solution would also seem to be unacceptable. This because standalone intellectual property owners who had previously been treated equitably, would subsequently be treated inequitably. As such it would appear that equitable solution must be that one which accepts that there are different forms of intellectual properties and applies different doctrines to those different forms. To do this it is essential that those different forms of intellectual properties are identified, which is why this chapter will first categorize those form, before defining the correlated intellectual property rights which could be applied to correlated properties.

8.1 Categorizing Intellectual Property

Theoretically if possible, any classification should be done using characteristics which are already being used to differentiate between various forms of patented intellectual properties, as this will help facilitate the adoption of the overall classification system.

Remarkably, given huge variety of types of patented intellectual properties, there appears to be only one characteristic which is currently used to differentiate between intellectual properties under existing patent laws. That characteristic has to do with the essential nature of the underlying intellectual property. It is primarily this characteristic which is used to determine the possibility of being granted a compulsory license: when owners are either absent from a market, or charge what are considered to be excessive prices for their property. Although somewhat poorly and inconsistently defined; because this characteristic is already a determining factor in how intellectual properties are treated, it is entirely logical that it be used in a classification system. Indeed, assuming that it can be more clearly defined, it represents as good a characteristic as any for creating categories. The definition which would appear to be the most logical being definition is one which defines essential intellectual properties as:

'properties which are necessary for the wellbeing of citizens in a society'.

Such a definition would provide a reasonably clear contrast with discretionary properties which are merely desired, while at the same time creating a category broad enough to encompass a range of essential intellectual properties.

Clearly to progress beyond the current differentiation at least one more characteristic needs to be utilised. In keeping with the core theme of this work, it is only rational that that this additional characteristic should be related to the correlated nature of the intellectual property. The objective of using this characteristic being; to separate intellectual properties between those which are created on a standalone basis and those which are built upon existing intellectual properties. A standalone intellectual property being defined as:

'patented innovations one which is developed solely by a single entity and which requires no integration with any other entities' valid and enforceable intellectual property to fulfil its claims.'

Whereas a correlated intellectual property being defined as:

‘patented innovations which have been built upon exiting intellectual property and which must be integrated with other entities’ valid and enforceable intellectual property to fulfil its claims.’

Taken together these two characteristics allow intelctual properties to be divided into four categories; Standalone Essential, Standalone Discretionary, Correlated Essential and Correlated Discretionary as shown in Figure 8

	Independent Innovation	Intergrated Innovation
Discretionary Innovations	Standalone Discretionary	Correlated Discretionary
Essential Innovations	Standalone Essential	Correlated Esssential

Figure 8

Although it would be entirely possible to expand the calcifications into more categories by adding additional characteristics or moving from a binary division of these two characteristics, it is not clear that further categories would provide substantial benefits. More explicitly it should be recognised that if any expansion the classification system is to be undertaken, it should only be done if it can add to the clarity of the categories which in turn would allow for even more specific doctrines to be applied for each new category.

8.2 Defining Correlated Intellectual Property Rights

Once it is accepted that intellectual properties can and should be categorised depending on whether they are standalone or correlated the question of what doctrine should be applied to correlated intellectual become readily apparent. Just like the correlated water and oil and gas properties described in chapter six, correlated intellectual properties should be subject to the correlated rights doctrine.

To determine how the correlated rights doctrine could be applied in intellectual property law it is worth repeating the key paragraph included in *Katz v. Walkinshaw*⁵⁴⁹, and key articles of administrative law that covers oil and gas. The key paragraph in *Katz v. Walkinshaw* reads as follows:

“Disputes between overlying landowners, concerning water for use on the land, to which they have an equal right, in cases where the supply is insufficient for all, are to be settled by giving to each a fair and just proportion.”⁵⁵⁰

The key article in oil and gas administrative law reading as follows:

'means to afford a reasonable opportunity to each owner to recover, or to receive without causing waste, a just and equitable share of the production.” With a just and

⁵⁴⁹ *Katz v. Walkinshaw* (1902) 141 Cal. 138, 70 Pac. 663
⁵⁵⁰ *Id.*

equitable share of production being defined as; “that fraction of the authorized production from a reservoir that corresponds reasonably to the proportion that the amount of recoverable oil or gas under the developed area of that separately owned tract or combination of tracts bears to the recoverable oil or gas in the total of the developed areas in the reservoir.”⁵⁵¹

This paragraph and article perfectly describe the core of correlative rights, which is when parties have separate ownership claims on what is effectively a common property, they each have a proportional right to the common property, rather than an absolute right to the entire property.

The reason why correlative property rights should be applied in some intellectual property disputes is the same reason that it has been applied in water and oil and gas disputes. That reason is that when separate intellectual properties are willingly contributed for integration into a product, they become an inseparable part of that larger whole innovation. And just like an underground aquifer or an oil reservoir, when each owner has a property interest in a large integrated property, equity dictates no owners should be allowed to take more than their fair share of the value inherent in that integrated property, as to do so would harm the other contributors. Given this obvious similarity in circumstance and objective it appears entirely sensible that the correlative rights doctrine should migrate into intellectual property law, where it could be generally defined as follows;

‘When separately owned intellectual properties are determined to be inherently integrated with other intellectual properties, the individual property owners shall have proportional property rights with respect to the whole property and shall not disproportionately enrich themselves to the detriment of the other intellectual property owners.’⁵⁵²

8.3 Rules for Apply Correlated Intellectual Property Rights

Whilst providing a general definition is creates a foundation for the application of correlated rights, it is not all that is required to fully apply the doctrine. To fully apply the doctrine, it is also necessary to know and describe what are the rules governing its application. From this prospective there appears to be four rules which are essential for the application of the correlated intellectual property rights doctrine. These are;

- 1) Court must be allowed to differentiate between standalone and correlated intellectual properties.
- 2) It must be possible for ever intellectual property owner to be granted preliminary injunctive relief and permanent injunctive relief whenever technology manufactures are unwilling to participate in good faith negotiations which require them to make a reasonable counteroffer to any reasonable licensing offer, regardless of the size of their contribution to an integrated technological product or the fact that they are a non-practicing entity.

⁵⁵¹ Interstate Oil and Gas Compact Commission Model Conservation Act, (I.O.G.C.C. 2004)

⁵⁵² Author's definition

3) The courts must have the possibility of withholding both preliminary injunction relief and injunctive relief when intellectual property owners are unwilling to license their property on reasonable terms.

4) The court must have the authority and the discretion needed to calculate and order payments of reasonable royalties for past and ongoing use to intellectual property owners, until the owner is willing to license their property on reasonable terms.

With respect to the first rule it is clear that if the correlated rights doctrine is to be applied, it should only be applied in cases involving correlated properties which are practiced in an integrated technological product. To do so requires an ability to differential between standalone and correlated intellectual properties. To do otherwise to do other would be a violation of the relatively exclusive rights of standalone properties owners and would discredit the validity of the application of the correlated rights doctrine.

The second rule is rather straight forward, as it is only rational that when an unauthorised user is unwilling licensee it would be entirely appropriate for the court to provide both preliminary and permanent injunctive relief against that use. This rule being in line with the historical protections provided to property owners when there are repeated and ongoing infringements of their properties by entities which flagrantly and unlawfully disregards the property rights of a property owner. This rational is valid regardless of the size of an owner's proportional contribution to the technological product or whether the owner is also a technological manufacturer. That said in some jurisdictions; courts are required to balance the negative impact to society of granting preliminary injunctive relief against the benefits the owner of providing such relief. In those jurisdictions it may be necessary to first provide a ruling which requires the technological manufacturer to pay lump sum and rolling damages to owners, which if unpaid would require the courts to provide permanent injunctive relief. In either case there can be no disputing the fact that the requirement to provide injunctive relief is as critical to enforcing the collated property rights, as it is to enforcing absolute property rights for standalone intellectual properties when unwilling licensees are infringing an owner's intellectual property.

The third rule is undoubtedly the most critical and contentious of the rules. It is critical because without the ability to withhold injunctive relief it would be impossible to apply the correlative rights doctrine. It is contentious because it adds an additional defence against the historical presumption of a right to injunctive relief when infringement is found. Adding this defence will be controversial to historical IPR proponents because, it would dramatically diminish the cases in the presumption of injunctive relief would prevail. The objections of the historical IPR proponents will be amplified because such a dramatically reduction of cases where injunctive relief is provided could be interpreted as creating a liability rule in intellectual property law. It would be controversial to IPR proponents focused on patent holdup because it would alter the rational for denying injunctive relief; from one which is based upon the nature of the property owner, to one based upon their behaviour. This change in rational replacing a simple objective categorisation, with a subjective analysis. It should be kept in mind that prior to eBay⁵⁵³ many jurisdictions granted automatic injunctive relief whenever a finding of infringement was made by the courts. The granting of automatic injunctive relief representing

⁵⁵³ eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837 (2006)

the logical legal manifestation of providing intellectual property owners with absolute /exclusive rights to their property and withholding that relief would represent a challenge to that absolute right. Fortunately, this historical practice was and is generally based upon precedent rather than legislative directives. Legislatively what determines how much flexibility judicial authorities have for withhold injunctive relief can be entirely dependent upon one of two words being used in the statute. One of which designates a hard and fast rule and while the other designates a standard. If the law states that courts "*must*" provide injunctive relief, it is a rule and this rule clearly eliminate the courts flexibility to withhold such relief. If the law states that courts "*may*" provide injunctive relief, then it is a standard and this standard provides the courts with the flexibility to withhold such relief.

The ability to withhold the injunctive relief and should not be confused with the legislative acts which provide judicial authorities with the right to grant compulsory licenses. A compulsory license represents a proactive action taken by a government, through which the government and not the owner, provides the users with a license to use the intellectual property of others. Although this may provide a similar result, as in both cases users are allowed to continue to use an intellectual property without direct authorization from the owner, there are two significant differences between the two actions. First there is the fact that a compulsory license effectively puts some state body in the position of the licensor, removing the owner from the bargaining table. The second is that it compulsory licenses tend to represent a settled state of affairs; whereas withholding injunctive relief can be considered a transitional arrangement which provides litigants with an opportunity review their positions and conclude a bilateral licensing arrangement between themselves. Both of these differences make withholding injunctive relief a superior alternative to providing a compulsory license, because the final solution is less dependent upon ongoing governmental involvement in the dispute. However, if judicial discretion is not available, having a compulsory licensing option is certainly preferable to not having one, as it restricts the coercive potential of automatic injunctive relief.

Almost as contentious will be the implications of the fourth rule. Not because; it would allow judicial authorities to determine the amount of damages which should be paid to owners for infringement of their intellectual property. But because it is under this rule that the courts would be allowed to provide damages which reflect the value provided by the property, rather than the heavily discounted damages recommended by patent holdup scholarship. Ironically the only limiting factor on this authority may be provision in some legislation which require that such damages be equal to, or greater than, a reasonable royalty rate for use of the intellectual property. These provisions are ironic, because they are violated by the discounted damages proposed, yet would be entirely compatible with correlated rights doctrine.

Under an application of the correlated rights doctrine the only issue which should arise is how to discourage owners from engaging in abusive behaviour if the owner will always be awarded the same reasonable damages. Obviously if damages are always the same, owners will have nothing to lose if they by engage in abusive behaviour which could provide them with a better result. However, this dilemma is easily overcome since determining reasonable royalty rate is a subjective decision which can and should produce a range of rates rather than one absolute rate. As such if it is determined by the court that an owner has behaved in an abusive manner, the court would have the authority to set the damages at the low end of the reasonable royalty range, as a punishment for engaging in that behaviour. Equally as important, the courts could also set the rate at the high end of a reasonable royalty range, when it is the user which is

engaging in the abusive behaviour. Equally obvious is the fact that setting damages at the low or high end of a reasonable royalty range does not violate either the letter or the intent of the legislation which have such a provision.

One potentially controversial aspect of this fourth rule is whether legislation provides courts with the authorities to impose rolling damages for ongoing unauthorised use. However, this should only be an issue in jurisdictions where legislation mandates automatic injunctive relief. In such jurisdiction; the requirement to grant automatic injunctive relief would make redundant the need to grant rolling damages because there would be no ongoing unauthorised use. As stated above because automatic injunctive relief without the option of a compulsory license would make applying the correlative rights doctrine virtually impossible, it would also make this question redundant.

Assuming the first of these rules on determining when the correlated rights doctrine should be applied is not actually part of the doctrine, then the following three questions need to be asked to determine if the correlated rights doctrine is compatible with existing legislation.

- 1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation.?

- 2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

- 3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

9. Milestones, The Path Backwards and The Path Forward

Included in this chapter are two most important precedential cases from which the correlated rights doctrine can be extracted, as well as a number of other cases and decisions that have adopted the precedents set by them. The doctrine can be extracted from these cases because they each represent a legal milestone which sought to prevent intellectual property owners from using the threat of injunctive relief to force correlated property owners to pay excessive royalties for intellectual properties provided to integrated technological properties. As the title indicates, although these cases represent critical milestones on the path towards correlated rights, they also included components which both bolster and detract from the ultimate objective or a full application of the doctrine. The components which bolster the application representing constraints included in the decisions which are intended to prevent intellectual property owners from charging excessive royalties for the use of their properties. The components which detract from the application being the constraints included in the decisions which prevent intellectual property owners from pursuing royalties which reflect the value that their properties provide to an integrated technological product. While these precedents played a critical role in solving the problem of patent holdup, because they were a reactionary response to holdup rather than a constructive response to a change in the innovative process, they appear to have created an even bigger problem. Specifically, in the effort to drive down the royalty rates charged by patent trolls, they have also driven down the royalty rates of all intellectual property owners.⁵⁵⁴ Assuming that this second problem was an unintended consequence of solving the first, it should be possible through this analysis to describe how this consequence occurred and how it can be corrected.

In this chapter the milestones, and the steps backwards and forwards will be analysed in three separate parts. The first to these parts will describe the two milestone cases which broke with precedent in either side of the Atlantic, the US Supreme Court's decision in *eBay Inc. v. MercExchange L.L.C.* (*eBay v MercExchange*)⁵⁵⁵ and the German Federal Courts decision in *KZR (Orange Book)*.⁵⁵⁶ The two other parts will then examine subsequent cases and competition authority decisions which can be described as being either on the path backwards and forward in the pursuit of an application of the correlated rights doctrine. This analysis will be framed as a discussion the two issues which need to be addressed whenever the courts are asked to

⁵⁵⁴ See e.g.: Epstein and Noroozi, *Threaten to Dismantle FRAND*, 2017. "our current presuppositions are to view patent rights and patent holders with hostility and skepticism, and to seek to depress the returns to innovation in favor of implementation. That trend is a critical error at precisely the wrong time. Rather than work from the premise that the FRAND marketplace is inherently flawed and that one side of the bargain requires continuous and significant judicial protection against systematic abuse from the other, courts, legislators, regulators, and academics should recognize that it is the very combination of strong property rights for innovation and strong enforcement of voluntary contractual arrangements that has brought us this far, and that is the only approach that can take us further." p 46

⁵⁵⁵ *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837 (2006)

⁵⁵⁶ Federal Court of Justice, *Orange Book Standard*, File Number KZR 39/06, 6 May 2009, reported in BGHZ 180, 312. English translation 41 IIC 369 (2010).

resolve patent disputes; when injunctive relief should be granted and how running royalties are calculated.

9.1 Milestones

The two cases *eBay Inc. v. MercExchange* and *Orange Book* must be considered milestones on the path to an application of the correlated rights doctrine because; they eliminated the presumption that automatic injunctive relief would be provided whenever an infringement is found. The significance of this change with respect to an application of the correlated doctrine is hard to overestimate, as the threat of seeking injunctive relief was the primary method used in patent holdup, which by extension ensured that others would not receive their fair rewards. Just as significantly it also provided a justification for allowing other owners to engage in patent holdout to prevent patent holdup. When injunctive relief is not automatic both these consequences are significantly reduced.

9.1.1 eBay v MercExchange

In April of 1995, Thomas Woolston filed his first patent application involving online marketing technology,⁵⁵⁷ which was expanded to a family of patents, which totalled 35 in number. For the most part each of these patents can be described as business method patent, which provide no detailed information about computer codes required to facilitate these methods. Rather they are simply the inventor's concept of the basic computer architecture require to facilitate online sales over the internet. That these patents anticipated the movement of product sales from bricks and mortar stores, to online stores is undeniable. What was questionable was the validity of these patents, as before they were granted there were already several enterprises seeking to develop online product sales. As such the possibility being granted a patent for the concept of selling over the internet, would appear to run afoul of the patentability requirements which stipulate that the innovation must be both original and non-obviousness. Indeed, it was the lack of these characteristics which were used by eBay to challenge the validity of the patents during the patent dispute. Regardless of whether the patent office made a mistake in granting the patents, once they were granted Woolston, quite naturally sought to monetize their value. He did this through MercExchange, a company owned by Woolston and set up for the primary purpose of licensing the properties. As this company was primarily engaged in an effort to license the properties rather than exploit them, it fell under the definition of a non-practicing entire, a classification which was created after MercExchange began its licensing efforts. One of the companies which was the target of these licensing efforts was eBay.

The company eBay was formed in 1995 by Pierre Omidyar, who claimed to have written the original software for eBay's website over a Labour Day weekend. This software remains at the core of operations and processes of the enterprise. Under the eBay model, buyers and sellers deal directly with each other and conclude the transactions themselves.

The direct relationship between buyers and sellers is significant as it raises questions about whether eBay actually infringed MercExchange's patents which envisioned that trades would

⁵⁵⁷ U.S. Patent No. 5,845,265.

take place through consignment to a "trusted dealer". While the primary business of eBay (or AuctionWeb as it was then called) was facilitating online sales, it is worth noting that there was also a secondary business which was evolving which involved licensing eBay's software to assist other companies run their own online auctions. To this end, in November of 1996 eBay negotiated its first third party licensing deal with Electronic Travel Auctions, who used eBay's software to sell plane tickets and other travel products. This deal was so successful that Omidyar began to believe that eBay would make most of its money licensing its technology.

This licensing business is significant because it indicates that eBay was much more than just a business method but had actually developed software tools which could be used by others to improve their business. The expectation of the licensing business surpassing the online business was however soon overturned by events. In January of 1997 the online site hosted 2,000,000 auctions, which was an exponential increase over the 250,000 auctions hosted during the whole of 1996.

Given this rapid growth eBay began to seek venture capital to expand their own business. Toward the end of 1997 a venture capital group called Benchmark Capital invested \$6.7 million in the company. With those funds eBay hired more experienced staff, including Meg Whitman who was hired as President and CEO in March of 1998. At that time the company had 30 employees, half a million users and revenues of around \$4.7 million. With this additional talent the exponential growth continued. The company went public on the 21st of September 1998 at \$18 a share which rose to \$53 a share in the first day of trading. By the year 2000 eBay had become one of the internet's great success stories establishing a dominate 90% share of the online auction market.⁵⁵⁸

According to eBay, in 2000 when it became involved with dispute with "Bidder's Edge", MercExchange's patent attorney and co-owner, John Phillips, contacted them with an offer which would allow them to use its patents in that dispute. Again, according to eBay this approach involved meetings which were primarily directed towards a review of MercExchange's prosecution files and although eBay did show an interest in acquiring MercExchange's patent portfolio. However, these were subject to due diligence which MercExchange never allowed eBay to conduct. eBay claimed that because of the unwillingness allow a thorough due diligence, the talks broke down before negotiations ever got started. They also claimed that during this interaction MercExchange 'carefully avoided any suggestion that eBay infringed, even though it secretly planned to sue eBay.'⁵⁵⁹

According to MercExchange, in June of 2000 eBay was looking for ways to offer goods for sale other than at auction and approached MercExchange to discuss eBay's interest in buying MercExchange's patent portfolio. MercExchange claims that they were very interested in establishing a working relationship with eBay that would provide them with the capital they need to transform MercExchange into an operating company. They also claimed that negotiation broke down because; eBay made it clear that they were only interested in buying the patents and not interested in entering into an extended business relationship. They further claimed that after negotiation 'broke down, eBay began using MercExchange's technology without authorization. That 'by the fall of 2000-only two months after eBay had unsuccessfully tried to buy MercExchange's patents-eBay incorporated into its web site a fixed-price sales capacity

⁵⁵⁸ Adam Cohen, *The Perfect Store: Inside eBay*, Piatkus; New Ed edition (25 May 2003)

⁵⁵⁹ MercExchange, L.L.C v. eBay, Opposition to MercExchange's Renewed Request for a Permanent Injunction, Case No. 2:01-CV-736

using the "electronic market" system of MercExchange's 265 patent for the purchase of goods and the transfer of funds in an electronic marketplace.⁵⁶⁰

Regardless of why the negotiations broke down the net result was that MercExchange brought suit for infringement against eBay on in September of 2001. This led to a series of court cases which lasted seven years, the most significant of which were obviously the Supreme Court's instructions on how lower courts should make decisions on injunctive relief, and the District Court's application of those instructions with respect to the renewed motion for injunctive relief filed by MercExchange.

It should be noted that the Supreme Court Decision focused solely on the general question of when injunctive relief should be granted and not on the specifics of the dispute. As such it did not take a position on whether MercExchange's patents were valid, and not even whether they should be granted a permanent injunction. From a correlated rights' perspective the most significant component of this decision can be found in the court's pronouncements about the categorical granting or withholding of injunctive relief;

'Just as the District Court erred in its categorical denial of injunctive relief, the Court of Appeals erred in its categorical grant of such relief'⁵⁶¹

In a single sentence the court basically eliminated the "per se" rule with respect to either granting or denying injunctive relief.⁵⁶² As a result of this elimination of this "per se" rule, the court was obliged to provide guidance on when injunctive relief should be provided. They did this by imposing a duty to use the historical four-factor test, which they outlined in their slip opinion:

"*Held*: The traditional four-factor test applied by courts of equity when considering whether to award permanent injunctive relief to a prevailing plaintiff applies to disputes arising under the Patent Act. That test requires a plaintiff to demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law are inadequate to compensate for that injury; (3) that considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction. The decision to grant or deny such relief is an act of equitable discretion by the district court, reviewable on appeal for abuse of discretion. These principles apply with equal force to Patent Act disputes. "[A] major departure from the long tradition of equity practice should not be lightly implied." *Weinberger v. Romero-Barcelo*, 456 U. S. 305, 320. Nothing in the Act indicates such a departure."⁵⁶³

⁵⁶⁰ MercExchange, L.L.C v. eBay, Renewed Motion for Entry of a Permanent Injunction, Case No. 2:01-CV-736

⁵⁶¹ *Id.* p5

⁵⁶² Coenen, Michael, *Rules Against Rulification* 576 (Yale L.J., December 1, 2014) "The district court, that is, had erred by "appear[ing] to adopt certain expansive principles suggesting that injunctive relief could not issue in a broad swath of cases." The court of appeals had erred, meanwhile, by adopting a "general rule" that was too accepting of injunctive relief. Though each court had reached a different result, both had committed the same methodological mistake: "Just as the District Court erred in its categorical denial of injunctive relief, the Court of Appeals erred in its categorical grant of such relief." Both lower courts, in other words, had ignored the fact that the relevant doctrinal analysis depended on "traditional equitable principles," which "do not permit such broad classifications." p590

⁵⁶³ Slip Opinion SUPREME COURT OF THE UNITED STATES Syllabus EBAY INC. ET AL. v. MERCEXCHANGE, L. L. C.

Although this ruling sought to provide a straight forward instruction on when to provide injunctive relief, the message was to a certain extent overshadowed by an implication that when analysing these four-factors; the "non-practicing" nature of the property owner could be a consideration.⁵⁶⁴ This implication persisting despite the court's statements that a "non-practicing entity" could also be granted injunctive relief;

"Neither the District Court nor the Court of Appeals below fairly applied these traditional equitable principles in deciding respondent's motion for a permanent injunction. Although the District Court recited the traditional four-factor test, 275 F. Supp. 2d, at 711, it appeared to adopt certain expansive principles suggesting that injunctive relief could not issue in a broad swath of cases. Most notably, it concluded that a "plaintiff's willingness to license its patents" and "its lack of commercial activity in practicing the patents" would be sufficient to establish that the patent holder would not suffer irreparable harm if an injunction did not issue. *Id.*, at 712. But traditional equitable principles do not permit such broad classifications. For example, some patent holders, such as university researchers or self-made inventors, might reasonably prefer to license their patents, rather than undertake efforts to secure the financing necessary to bring their works to market themselves. Such patent holders may be able to satisfy the traditional four-factor test, and we see no basis for categorically denying them the opportunity to do so. To the extent that the District Court adopted such a categorical rule, then, its analysis cannot be squared with the principles of equity adopted by Congress. The court's categorical rule is also in tension with *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 422-430 (1908), which rejected the contention that a court of equity has no jurisdiction to grant injunctive relief to a patent holder who has unreasonably declined to use the patent."⁵⁶⁵

Why this statement did not correct the impression is likely because; while this paragraph contents that "Such patent holders [non-practicing entities like university researchers or self-made inventors] may be able to satisfy the traditional four-factor test", it provides no guidance on how they could do so.⁵⁶⁶ An omission which Justice Kennedy's tried to rectify, but may have compounded in his concurring comments which read as follows:

⁵⁶⁴ Stacy Streur, *The Effect: Tougher Standards but Courts Return to the Prior Practice of Granting Injunctions for Patent Infringement*, 8 Nw. J. Tech. & Intell. Prop. 67 (2009).

<http://scholarlycommons.law.northwestern.edu/njitip/vol8/iss1/4> "With its eBay decision, the Supreme Court rejected that principle and held that the proper test for determining whether to impose an injunction against a patent infringer is the standard four-factor test for imposing equitable relief. The result was an immediate spike in the number of patent cases in which requests for injunctive relief were denied. Those denials were frequently based on the patent holder's inability to demonstrate the first two factors of the test, irreparable harm and no adequate remedy at law. Post-eBay courts, obligated to apply the four-factor test, often evaluated the first and second factors based on the nature of the competition between the parties. Despite the significance of inter-party competition on the outcome of post-eBay cases there is no universally accepted description of what constitutes "competition between the parties." at 86

⁵⁶⁵ eBay Inc. *MercExchange*, LL, 547 U.S. 388 (2006)

⁵⁶⁶ Douglas Laycock, *Modern American Remedies: Cases and Materials* 426 (4th ed. 2010) [hereinafter: Laycock, *Remedies* (2010)], '[B]ecause the opinion gives no hint how any of the four parts of the test apply to the facts of the case, its abstract pronouncement has no real content.' At 427

'An industry has developed in which firms use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees. ... When the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest.'⁵⁶⁷

In this concurring opinion it is clear the Justice Kennedy wanted to underline the fact that it is the act of seeking to leverage the threat of injunction to provide a better negotiation position which was the problem. However, because he prefaced this comment by referring to what is effectively a "non-practicing entity", he made the identification of "non-practicing entity" a proxy for seeking to employ undue leverage. Taken together the ruling and the concurring opinion initiated a heated debate as to whether all "non-practicing entities" were in fact "patent trolls".⁵⁶⁸

As essential as this debate is, it had the unintended consequence of diverting attention away from the real question which should have been the focus of the ruling. That question being whether the imposition of generalised historical four-factor test from an old case was the most appropriate way of deciding whether injunctions should be provided in a modern and complicated patent disputes.

Another question gained significance as a result of this case; was the question of how to calculate running royalties. Obviously if injunctive relief is not granted, and an entity continues its unauthorised use the court must address the issues of ongoing royalties (which would otherwise be done through private negotiations after an injunction is granted). While the case itself did not specifically address this question, the joint concurring opinion of Chief Justices Robert, Justice Scalia and Justice Ginsburg included a passage which has appeared to indicate that this too should be adjudicated using a generalised historical analysis:

"From at least the early 19th century, courts have granted injunctive relief upon a finding of infringement in the vast majority of patent cases. This "long tradition of equity practice" is not surprising, given the difficulty of protecting a right to *exclude* through monetary remedies that allow an infringer to *use* an invention against the patentee's wishes—a difficulty that often implicates the first two factors of the traditional four-factor test. This historical practice, as the Court holds, does not *entitle* a patentee to a permanent injunction or justify a *general rule* that such injunctions should issue. ... At the same time, there is a difference between exercising equitable discretion pursuant to the established four-factor test and writing on an entirely clean

⁵⁶⁷ *Id.* Justice Kennedy Concurring Opinion

⁵⁶⁸ See for example: McDonough, James F., *The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*. (Emory Law Journal, Vol. 56, 2006) "To highlight the problems with the "patent troll" label, a quick look at one of the worst individual trolls in history is illustrative. For decades, this person held the U.S. record for the number of patents held by an individual⁸⁷—an astounding 1,093.88 This person primarily "described himself as an inventor," and although many of his inventions were incorporated into products, he made a fortune from many patents that he never practiced. Not only did this man not practice nor have any intention of practicing many of his inventions, but he actually invented items specifically to deter innovation. This king of trolls was none other than Thomas Edison"; Andrew Beckerman-Rodau, *The Supreme Court Engages in Judicial Activism in Interpreting the Patent Law in eBay, Inc. v. MercExchange, L.L.C.* (Tulane Journal of Technology & Intellectual Property, Vol. 10, No. 1, 2007); Holte, Ryan T., *Trolls or Great Inventors: Case Studies of Patent Assertion Entities* (St. Louis University Law Journal, Vol. 59, No. 1, 2015)

slate. “Discretion is not whim, and limiting discretion according to legal standards helps promote the basic principle of justice that like cases should be decided alike.” *Martin v. Franklin Capital Corp.*, ... When it comes to discerning and applying those standards, in this area as others, “a page of history is worth a volume of logic.” *New York Trust Co. v. Eisner*, 256 U. S. 345, 349 (1921) (opinion for the Court by Holmes, J.).⁵⁶⁹

What this passage appears to imply is that the courts ought to look back at earlier Supreme Court cases to determine how they should be calculated, rather than adopting a new standard for assessing reasonable royalties in modern patent disputes. This quite naturally has increased the focus on the fifteen factors included in the 1970 Georgia Pacific case⁵⁷⁰. Like the four-factors for deciding injunctive relief, these fifteen factors will be considered under the step backwards analysis which is provided in the next part of this chapter.

9.1.2 Orange Book Standard

To put this case into the proper context it is necessary to briefly mention an earlier case decided by the German Federal Supreme Court (BGH) which involved the development of a standardised plastic chemical barrel by for the German market, *Standard-Spundfass*.⁵⁷¹ In that case the German owners of the patent for the standardised barrel, refused a licence to a German subsidiary of an Italian barrel manufacturer and sued for infringement when the Italian subsidiary began supplying German chemical companies with barrels which were equivalent to the German standardized barrels. In its defence the Italian subsidiary argued that the refusal to licence; effectively barred them from participation in the German market, was in breach of EU and German competition laws, and that they should be granted the same free license that their German competitors had been granted.

The BGH indicated that when a patent was part of a standard, and the owner used that position to restrict market access; they were abusing their dominate market position and this could result in an obligation to grant a compulsory license in order to ensure competition in the market place.⁵⁷² However the BGH also pointed out that; even if there was an obligation to license this did not mean that it had to offer a totally non-discriminatory license, which provided their most favoured licensing terms to all licensees. That so long as the underlying terms could be justified using sound economic and business considerations; unequal terms would not conflict with an application of competition law considerations.⁵⁷³ In the ruling the BGH left it open to lower courts of decide if this refusal to license justified withholding injunctive relief and further confirmed that damage claims could not be excluded; even if the patent owner had violated competition laws by denying the patent infringer a license when they were a willing licensee.⁵⁷⁴ It was this case which fully inserted competition law into the mainstream of German patent disputes and significantly reduced the need to seek a compulsory license from the Patent Office.

⁵⁶⁹ *eBay Inc. v. MercExchange*, Justice Roberts Concurring Opinion

⁵⁷⁰ *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1119-20 (S.D.N.Y. 1970), *modified and aff'd*, 446 F.2d 295 (2d Cir.)

⁵⁷¹ The Federal Court of Justice *Standard-Spundfass* No KZR 40/02, English translation IIC 2005, 741 (2005)

⁵⁷² *Id.* at 746

⁵⁷³ *Id.* at 747

⁵⁷⁴ Philipp Maume, *Compulsory Licensing in Germany* in *Compulsory Licensing*, Reto Hilty and Kung-Chung Liu (eds), MPI Studies on Intellectual Property and Competition Law, Vol. 22, (Springer, 2014)

The Orange Book is the informal name Philips and Sony used to describe the patented technical specifications they jointly developed with two other companies (Taiyo Yuden and Ricoh) for producing recordable compact discs, (CD-R) and rewritable compact disc (CD-RW). In the early 1990 the four companies which contributed to the Orange Book standard decided to aggregate all the patent intellectual properties into two patent pools and license them together; in order to reduce the transaction cost of licensing them separately. The CD-R patents of Philips, Sony and Taiyo Yuden representing the CD-R pool and the D-RW patents of Ricoh, Philips and Sony representing the CD-RW pool. Both pools were to be licensed by Philips; with Ricoh, Sony and Taiyo Yuden receiving their proportion of any royalties agreed by under those licenses. Because the patents in the pools established a standard for CD-R or CD-RW, any manufacturer who wanted to participate those markets would be required to take a license to the patents in the pools. Further as Phillips was willing to provide licenses to the pool properties to anyone who requested a license under using a standardised licensing agreement, it appeared that they would not be in breach of either EU and German competition laws.

The case commenced in the Regional Court when Philips sued several manufactures of CD-Rs who had did not have a licence to the pools and were therefore on prima facie infringing on the patents included in the pools. The defendants denied an infringement of the patents and claimed that because Philips was charging other companies a license fee of 3%, as well as failing to collect license fees from other companies; the royalty rates which they were being asked to pay were discriminatory and therefore prohibited by the EU and German competition laws. The Regional Court granted Philips injunctive relief, prohibiting the defendants from manufacturing, selling, circulating or importing CD-Rs and CD-RWs without permission from the Philips, as well as ordering damages. The defendants first appealed this decision to an appellant court which upheld the Regional Courts Decision.⁵⁷⁵ The defendants therefore appealed to the BGH on points of law. Philips counter appealed on points of law and requested that the BGH should settle the terms of the case on merit, rather than seeking injunctive relief.

In considering the defendant's points of law, the BGH rejected the technical issues raised by the defendants, as well as their claim of discriminatory licensing practices because they failed to provide proof of such discrimination. What they did accept was a general defence against the grant of injunctive relief; when a patent owner held a dominate position in the market and a refusal to license would prevent the defendant from taking part in market, or when the licensing conditions were discriminatory, both of which would represent an abuse of their dominate position in the market.⁵⁷⁶ This defence being justified by referring to the compulsory licensing provisions under cartel law, which was articulated in the ruling as follows:

'To the extent that the "compulsory license defence under cartel law" is accepted ... it is based on the consideration that, although the party wishing to take a license acts unlawfully when using the patent without the consent of the patent proprietor, the patent proprietor can still not sue him for injunctive relief, because with the request to cease and desist, he would ask for something he would have to immediately

⁵⁷⁵ The Court of Appeal Karlsruhe, orange Book Standard, No 7 0 94/o2 6 May 2009

⁵⁷⁶ BGH *Orange Book Standard* "A defendant sued based on a patent is able to defend himself against the claim for injunctive relief asserted by the patent proprietor filing the action, by pleading that the latter abuses a dominant position on the market if he refuses to conclude a patent license agreement with the defendant on non-discriminatory and non-restrictive terms and conditions." at 369

give back (in the form of the grant of a license) (*dolo petit, qui petit quod statim redditurus est*), thus violating the principle of good faith (Sec. 242 BGB).⁵⁷⁷

However, the BGH then went on to qualify this defence against the granting of injunctive relief by stating that;

"the patent proprietor who asserts a claim for injunctive relief based on his patent, although the defendant is entitled to be granted a license under the patent in suit, only abuses his dominant position on the market and only acts in bad faith if two conditions are met: Firstly, the party wishing to obtain a license must have made an unconditional offer to conclude a license agreement which the patent proprietor cannot reject without unreasonably obstructing the party wishing to take a license or without violating the prohibition of discrimination, and the proposed licensee must stay bound by this offer. And secondly, the proposed licensee has to comply with the obligations on which the use of the licensed subject matter depends according to the license agreement still to be concluded, if he already uses the subject matter of the patent before the patent proprietor has accepted his offer. This means in particular that the proposed licensee has to pay the royalties resulting from the contract or ensure their payment."⁵⁷⁸

What this decision effectively introduced into German intellectual property law is what can best be described as an "assumed license defence" supported by competition law.⁵⁷⁹ Under this concept any property owner who has a property which provides them with a dominate position in the marketplace would be effectively prohibited from seeking injunctive relief, whenever an infringer makes an irrevocable offer to license their property and backs up that offer by paying the royalties which would be payable under the offer to the patent owner or to an account in favour of the patent owner. To the extent that the infringer fulfils his obligations under the offer by making payment, and as such is not enjoined from infringing, it is as if it is assumed that offer was accepted. The basic principle of this part of the ruling being that it protects a good faith willing licensee from injunctive relief merely because there is a disagreement on an appropriate royalty rate. In its final ruling the BGH upheld the appeals court decision, because the defendants had failed to arrange payments of any royalties for an assumed licence.

Mindful of the requirement on the part of the infringer to make, and back up an offer, the final paragraphs of the case addressed the royalties to be paid under this "assumed license" concept. The key part of these comments being that the patent owner is 'completely free in determining the royalty amount; his determination is inequitable only if it does not stay within the limits set by cartel law and if it unjustly obstructs the licensee or discriminates

⁵⁷⁷ *Id.* at 379

⁵⁷⁸ *Id.* at 380

⁵⁷⁹ Although the BGH seemed to indicate that this was not a new concept "The fact that the proposed licensee must have made an offer on acceptable contracting terms that the patent proprietor cannot refuse without discriminating the proposed licensee against similar companies without objective reason or without unduly obstructing him, is, to our knowledge, *generally recognized*, because the patent proprietor with a dominant position on the market is not obliged to offer to permit the use of the invention; only if he declines an offer to conclude an agreement on non-restraining or discriminating terms, does he abuse his dominant position on the market. He does not have to tolerate the use of his patent by a company who is not ready to enter into a license agreement on such terms and conditions." [Italics added]

him against other licensees' and that the infringer cannot be 'estopped from asserting that a determination of the royalty by the patent proprietor in this amount is inequitable - for which assertion he still bears the onus of presentation and proof'⁵⁸⁰

While the concept of an assumed license defence, is compatible with an application of the correlated rights doctrine: which would limit the granting of injunctive relief to correlated intellectual properties; it does not make the application of correlated rights doctrine redundant as there are aspects of the decision which are inconsistent with an application of the doctrine. The first inconsistency is that unlike the correlated rights doctrine, this case determines whether injunctive relief should be available depending on whether the patent owner has licensed their properties to anyone else, rather than the nature of the properties themselves. So, for example it could be argued that if a standalone patent owner has licensed their properties to anyone else it, they are prohibited from withholding a license to everyone who wishes to participate in the market.

Even if the case is interpreted as applying only to patents which form part of a standard and therefore correlated; it does not differentiate between correlated essential patents and correlated discretionary patents. This lack of differentiation is significant because to suggest that every correlated patent owner must provide a license to every potential technology manufacturer which would effectively prevent anyone from establishing any form of product differentiation. Further this same lack of differentiation could easily impact how reasonable royalties are established. Further while it may be that the royalty rates should be the same for all licensees, what is missing is any meaningful guidance on what would constitute a reasonable royalty.⁵⁸¹ That said there can be no denying that establishment of "assumed license defence" is clearly a major milestone on the way to the application of the correlated rights doctrine.

9.2 The Path Backwards

As stated in the introduction to this chapter these paths backwards and forwards will be split into two parts, with the first part examining the factors related to granting of injunctive relief and the second part examining the issue of how reasonable royalties are to be calculated.

9.2.1 Injunctive Relief

While the elimination of the presumption of automatic injunctive relief in *eBay v MercExchange* was clearly step forward on the path to applying the correlated rights doctrine, it is unclear whether a requirement to use an ill-defined four-factor test should be considered a step forward or a step backward on the same path. There are four concerns with respect to the requirement to use this test. The first is whether a historical test which was relatively unknown to intellectual property law, would be appropriate for modern intellectual property disputes.⁵⁸² The second is whether is it appropriate to use a basic four-factor injunction test for modern

⁵⁸⁰ *Id.* at 386

⁵⁸¹ Philipp Maume, *Compulsory Licensing in Germany* "The Court's idea is excellent, but unfortunately, the wording is not. The problem is the phrase 'in any event sufficient' ('jedenfalls ausreichend'). The decision does not elaborate on the meaning of 'sufficient'. The term is not common in patent practice either. The wording suggests that an amount that is 'in any event sufficient' is higher than a 'reasonable' amount." p 15

⁵⁸² Doug Rendleman, *The Trial Judge's Equitable Discretion Following eBay v. MercExchange*, 27 REV. LITIG. 63 (2007) 'Remedies specialists had never heard of the [eBay] four-point test' at 76; Laycock, *Remedies* (2010) 'there was no 'traditional' four-part test [for intellectual property injunctions]' at 426

intellectual property disputes.⁵⁸³ The third was the concerns that despite the court's declaration there still existed conjecture that existence of "non-practicing entities" could somehow be used as a proxy for determining whether the patent owner was engaged in patent holdup.⁵⁸⁴ The fourth concern being when a categorical rule is replaced by a four-factor test that non-practicing entities will struggle to meet, it represents exchanging one categorical rule for another. The new rule having a discriminatory effect on non-practicing entities.⁵⁸⁵

It should be noted that to the extent that this final concern is legitimate, then the court's pronouncement that categorical rules cannot be squared with the principles of equity, must imply that an application of the four-factor test is also inequitable.⁵⁸⁶ The question of equity resting on the potential of a discriminatory effect which is inherent in both the categorical rule and the four-factor test. For this discriminatory effect to exist it must be possible to show that the proposed criteria for proving harm; is dependent on type of owner property owner which has brought the case, and not on whether the owner has behaved unreasonably.

To fully appreciate how this discrimination would occur in the four-factor test, all one needs to do is consider real world examples of an inventions developed by major technology manufactures like Apple Inc., versus a college student who develops the same innovations. For the likes of Apple Inc., it is easy to show that they intend to use the innovations exclusively for their own products and that the value of competitive advantage provided by the innovation cannot be quantified, which under the four-factor test would effectively ensure their right to injunctive relief. Whereas because a college student would not be able to make that same argument, the four-factor test would significantly reduce or even eliminate their chances of being granted injunctive relief. The main problem for a college student being the impossible to proving that compensation would not be sufficient to cure the harm. While such conditionality is undoubtedly appreciated by large technology companies, for smaller innovators who only

⁵⁸³ Mark P. Gergen, John M. Golden & Henry E. Smith, *The Supreme Court's Accidental Revolution? The Test for Permanent Injunctions*, 112 COLUM. L. REV. 203 (2012)) [hereinafter Gergen, et al, *Accidental Revolution* (2012)] 'In deciding whether to issue injunctions, courts would generally do well by continuing to use the kinds of structured sets of presumptions and safety valves that have characterized traditional equitable practice. Courts should be reluctant to read eBay's peculiar language to supplant these traditional approaches with a comparatively bare four-factor test.' at 206

⁵⁸⁴ John m. Golden, *Commentary, "Patent Trolls" and Patent Remedies*, v85 2111 (Tex. Law Rev., 2007) '[Questioning] the wisdom of an approach to permanent injunctions that categorically discriminates against non-competing patent holders' at 2126

⁵⁸⁵ See: Vincenzo Denicolo, Damien Geradin, Anne Layne-Farrar, A. Jorge Padilla, *Revisiting Injunctive Relief: Interpreting eBay in High-Tech Industries with Non-Practicing Patent Holders*, 4 J. Competition L. & Econ. 571, 590–91 (2008) 'post eBay case law seems to be leaning towards a one-sided approach which favors a manufacturing licensee's point of view with little consideration given to the impact on firms with other kinds of legitimate business models, such as innovators with limited or no presence in downstream markets ("non-manufacturing" or "non-practicing" patent holders).' at 575; also see: Lily E. Lim and Sarah E. Craven, *Injunctions Enjoined: Remedies Restructured*, 25 Santa Clara High Tech. L.J. 787 (2012). 'Before eBay, courts granted patentees injunctions 95% of the time after finding infringement. After eBay, this number has dipped to 72%. Whether a patentee and an accused infringer directly compete in the marketplace has become the most significant factor determining whether a court issues an injunction. Also of significance in the new injunction calculus is (1) the patentee's willingness to license; (2) the impact of the unauthorized sales on the patentee's reputation, future profit, brand name; and (3) whether the patent covers a component of limited importance to the total device. Delay in bringing suit has also been considered. Perhaps surprisingly, the willfulness of the infringement has not played a significant role. The result is that a patentee who directly competes in the marketplace with the infringing party gets an injunction 79.6% of the time, while an NPE's chance of getting an injunction falls precipitously to 33.3%.' at 798

⁵⁸⁶ Gergen, et al, *Accidental Revolution* (2012) 'the four-factor test differs from traditional equitable practice in at least three, and possibly four, significant ways' at 207.

want to license their products, it is a significant obstacle which in most cases will prevent them from securing the full value of that their innovation provides to users.

The existence of this potential discriminatory effect should not be entirely surprising as it must be remembered that when this decision was taken the primary concern was about the problem of patent hold-up by so called patent trolls. The problem is that this generalised method for determining all forms of injunctive relief, cannot target the patent trolls in intellectual property disputes without also harming other non-practicing entities.

A concrete example of how this potential discriminatory effect can manifests itself is provided by the ruling which was handed down when the case was returned to district court. Like their earlier opinion,⁵⁸⁷ this opinion withheld in the injunction sought by MercExchange, by slightly changing its rational to comply with the Supreme Court ruling.⁵⁸⁸ An analysis of this opinion is provided to demonstrate the potential for discrimination inherent in the Supreme Court instruction, which would be a step backwards in term of applying the correlated rights doctrine.

In the first part of the ruling the District Court's ruling, the court stated that it reopened the records to allow the litigants 'the opportunity to court on factual developments occurring over the past three years.'⁵⁸⁹ As a result of that process the court concluded that the;

'primary factual developments occurring subsequent to trial that are relevant to the instant opinion are: (1) eBay requested that the PTO re-examine the patentability of MercExchange's '265 and '051 patents and after granting such request, the PTO issued non-final actions indicating that both patents are invalid due to prior art; and (2) in 2004, Mere-Exchange granted uBid, Inc. ("uBid"), an online auction and fixed price marketplace that competes with eBay for a portion of the relevant market, a non-exclusive license to its entire patent portfolio. Additionally, in 2006, on the heels of the Supreme Court's opinion remanding the injunction dispute, uBid considered selling a 25% interest in its company to MercExchange in return for an exclusive license to the '265 patent.'⁵⁹⁰

What is conspicuous by its absences, is a specific mention in this section of the decision addressing whether eBay had been successful on its efforts to build around or whether they were still infringing MercExchange's patents. Clearly if eBay had been successful, this should have been the first factual development to be mentioned by the court, as it would have made the proceedings redundant. Although there might be an argument that the continued infringement should not be considered a factual development if there was no work around attempted, the fact that eBay's attempted a work around and those attempts were unsuccessful, would certainly appear to be a relevant factual development. While it may be that this lack of success may have been ignored because of the validity issues which arose, surely the court ought to have identified the failure of the work around and resulting ongoing infringement as a "Factual Development". That they did not provides an early indication of the bias against non-practicing entities which was subsequently demonstrated in the ruling.

⁵⁸⁷ MercExchange, LLC v. eBay, Inc., 275 F. Supp. 2d 695 (E.D. Va. 2003)

⁵⁸⁸ MercExchange, LLC v. eBay, Inc., 500 F. Supp. 2d 556 (E.D. Va. 2007)

⁵⁸⁹ *Id.* p560

⁵⁹⁰ *Id.* p561

The next section of the decision dealt with eBay's motion for a stay of proceeding, which the court rejected with respect to the '265 patent and granted with respect to the '051 patent. Although both patents were subject to a negative re-examination by the patent office,⁵⁹¹ there was a significant procedural difference between the two which provides an explanation for the seeming contradictory decisions. In the respect to the '265 patent, the court withheld the stay because prior to re-examination; the trial jury had found the patent valid and infringed, and the Federal Circuit Court had affirmed that decision. Basically, because the patent had been found valid by a jury, the court felt that ignoring that finding could represent a 'manipulation of the re-examination process.'⁵⁹² Whereas with the '051 patent, as it has 'never reached the jury'⁵⁹³ the court felt that it was appropriate to grant a stay until the patent office finalised its decision. Moreover, as the earlier summary judgement questioning the validity of the patent, and this supported to the patent office's negative re-examination, the court decided it would have been a 'needless waste of judicial resources'⁵⁹⁴ to determine infringement remedies when it was highly likely that the patent would be found invalid.

Only after these two issues were addressed was the court's decision on MercExchange's Renewed motion for a Permanent Injunction provided. In describing this decision the court acknowledges that the case was sent back for back for retrial because; 'although it had applied the four-factor test, the Supreme Court ruled that it's 'prior analysis could be read to bar injunctive relief "in a broad swath of cases."⁵⁹⁵ As such the court stated this time they would apply 'no special assumptions unique too patent cases' and rather use its equitable discretion to apply the four-factor test as it would apply to any case and guided by the facts specific to this case.⁵⁹⁶ To do so the court revisited its analysis of each of the four-factors, to determine if the plaintiff had demonstrated '(1) that it has suffered an irreparable injury; (2) that remedies available at law are inadequate to compensate for that injury; (3) that considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.'⁵⁹⁷

With respect to the issue of irreparable harm, the court first dismisses the presumption of irreparable harm by citing that the Supreme Court opinion 'does not imply a presumption, but places the burden of proofing irreparable injury on the plaintiff.'⁵⁹⁸ Using this instruction the court then declared that a 'permanent injunction shall only be issued if plaintiff carries its burden of establishing that, based on traditional equitable principles, the case specific facts warrant entry of an injunction.'⁵⁹⁹ Unfortunately after making this declaration the court failed to specify what it means by "traditional equitable principles" which renders this declaration rather ambiguous.

When specifically addressing the issue of irreparable harm 'the court concludes that MercExchange has not established irreparable harm and that the first factor weighs against entry of an injunction.'⁶⁰⁰ In terms of the path forward this sentence is notable because it clearly

⁵⁹¹ *Id.* p563

⁵⁹² *Id.* p565

⁵⁹³ *Id.* p566

⁵⁹⁴ *Id.* p567

⁵⁹⁵ *Id.* p568

⁵⁹⁶ *Id.* p568

⁵⁹⁷ *Id.* p568

⁵⁹⁸ *Id.* p568

⁵⁹⁹ *Id.* p568

⁶⁰⁰ *Id.* p569

indicates that the court intended to treat the four-factor test as a balancing test, rather than a cumulative series of four binary tests which would be virtually impossible for most non-practicing entities to pass.

That said this declaration clearly represents a step on the path backwards, because of the rational provided as to why MercExchange had not proved irreparable harm;

'MercExchange consistently sought royalties from internet companies utilising its patents, including eBay, and publicly announced its willingness to license its patents to eBay, before, during and after trial, but failed to establish that an injunction was necessary to protect its brand name, market share, reputation, goodwill, or future research and development opportunities.'⁶⁰¹

This summary of their reasoning is profoundly troubling for several reasons, not the least of which is that it is in direct contradiction of the essence of the Supreme Court opinion. The summary is contradictory because; Using MercExchange's efforts to secure payment for the use of its patents as an indication of a lack of irreparable harm, was no different from saying that non-practicing entities cannot suffer irreparable harm. Likewise; as non-practicing entities by definition do not have market share to protect, invoking such a justification is also the same as saying that because they are non-practicing entities they cannot suffer irreparable harm. This of course is inconsistent with the Supreme Court opinion which admonished the Court for its earlier decision which they interpreted as involving a categorical denial of injunctive relief to non-practicing entities. While it is true that this rational no longer articulates a direct categorical denial of injunction relief because MercExchange is non-practicing entity, its effect is precisely the same as if such an articulation had actually occurred. Ironically it is clear the court recognised this contradiction by paying lip service to the Supreme Court opinion by stating that;

'The court's determination that MercExchange fails to establish irreparable harm is based upon the facts specific to this case and not broad classifications or categorical exclusions of certain types of patent holders'⁶⁰²

and in the same paragraph stating that;

'although the Supreme Court rejected analysis implying that a categorical exclusion prevented injunctions from issuing if a patent holder did not practice its patents and existed only to license them, the Court in no way suggested that such facts could not be considered as part of the calculus in weighing the traditional equitable factors.'⁶⁰³

While the later statement is true, (in that the Supreme Court did not specifically instruct them to ignore the nature of the patent owner), that they felt justified in using that nature as the primary reason for not finding irreparable harm, obviously creates an implied contradiction with the Supreme Court and their first statement. However, it is not the implied contradiction with the Supreme Court's opinion which is the worst thing about this rationalization. What is far worse is the entrenched discrimination that this rationalization represents. For if this rational is to be accepted, it would mean that intellectual property rights are not determined by the nature

⁶⁰¹ *Id.* p569

⁶⁰² *Id.* p568

⁶⁰³ *Id.* p569

of the property, but by who owns the property. This of course is directly contradictory to an equitable principle that everyone should be treated equally under the law.

Presuming that the court did not intend to contradict the Supreme Court and advocate for discriminatory treatment of intellectual property owners; it must be assumed that the "traditional equitable principles" mentioned by the court must have been the reason for their decision. Given there is no clear indication of what those principles involve; it must be further assumed that they must have something to do with the other factors mentioned by the court, namely; '(brand name), market share, reputation, goodwill, or future research and development (or the ability to bring a unique product to the market)'⁶⁰⁴. While none of these factors appear to be directly related to equitable principles, given this was the court's justification for not granting injunctive relief, it would appear reasonable to presume that some form of equitable principles must be incorporated within them. To determine if this presumption is correct each will be analysed individually using the previously mentioned hypothetical student, to determine if a university student, who represents another form of non-practicing owner would also be discriminated against.

With respect to brand name, Black's Law Dictionary defines this as "A name given by the maker to a product or range of products, esp. a trademark"⁶⁰⁵. Given this definition, it is clear that a university student would not have a brand name which would be recognised in any industry or consumer market and as such has nothing which could be harmed. Which is not to say that a student would not feel a personal harm from an infringement of the property which they invented through their creative efforts, just that that harm cannot be defined as harm to a "brand name".

Given "market share" is defined as "total sales volume as a percentage of overall sales,"⁶⁰⁶ this would appear to be a rather inappropriate criterion as every patent which is granted is supposed to represent a new creation, which pre-supposes a zero-market share. The only way in which this can be utilised as a factor is if the owner is already involved in the industry which by implication means that they are a practicing entity. Obviously, when a university student creates an innovation that innovation has zero market share, and as such using this a factor would automatically discriminate against them, just as it would against every other first-time inventor.

Unlike with "brand name" and "market share" there is an equitable principle which could be considered relevant to "reputation". That principle being the "rule of clean hands" which suggests that the plaintiff 'must be free from reproach in his conduct. But there is this limitation to the rule: that his conduct can only be excepted to in respect to the subject-matter of his claim.'⁶⁰⁷ Although this rule is different from the definition of reputation which can be defined as 'Reputation of a person is the estimate in which he is held by the public in the place where he is known,'⁶⁰⁸ it would appear to be reasonable to assume that a plaintiff with "clean hands" would have a better reputation than one with "dirty hands".

⁶⁰⁴ *Id.* p569 and 572: While the term "brand name" was used in the summary of the section, three pages later that term was missing and the phrase "or ability to bring a unique product to the market" was inserted.

⁶⁰⁵ Black's Law Dictionary 2007, definition of "brand name"

⁶⁰⁶ *Id.* definition of "market share"

⁶⁰⁷ *Id.* definition of "clean hands"

⁶⁰⁸ *Id.* Definition of "reputation"

An interesting aspect of this rule is that it could be easily adapted to a correlated rights situation. All it would require is that it be modified to hold that when an intellectual property owner has done unlicensed research on integrated technological properties owned by others for the purpose of contributing to the same integrated technological product, this should prevent them from obtaining injunctive action against that other owners if those owners chooses to use new property to improve that integrated technological product.

An obvious obstacle with this interpretation is that doing research on existing intellectual property is generally not considered an infringement, even though in some cases merely doing research for the purposes of producing generic drugs has been considered an infringement.⁶⁰⁹ So if such generalities were to be sustained, it would be difficult to argue that doing that unlicensed research would be equivalent to having "dirty hands", even if they have "correlated hands".

That said; if reputation merely refers to the licensing practices of the owner and the desire to maximise their licensing revenues is considered as a negative reflection on reputation, this could contradict the founding premise on capitalism. Most notably it would institutionalize discrimination against non-practicing property owners, who cannot rely on profits from product sales to earn the value which is inherent in their properties. For the court to suggest that because a plaintiff's, 'has utilized its patents as a sword to extract money rather than as a shield to protect its right to exclude'⁶¹⁰ would not be sufficient, because every non-practicing entity, including the theoretical college student would do preciously the same thing.

Rather than seeking a royalty equal to the value of the innovative contribution, it must be the act of demanding excessive royalties which should establish a negative reputation. Conversely when users offer to pay substantially less than what an intellectual property is worth, this would also need to be considered to establish a negative reputation.

With respect to "research and development opportunities" this too clearly creates a bias against non-practicing entities, as it could well be the case that they have no desire to do further research. Indeed, as nowhere in any patent law does it state that a patent will only be granted if the patentee is willing to continue research in the field, it would appear entirely inappropriate to make that a requirement for exercising the rights granted to a patent owner.

Finally, when it comes to the question of harming the ability of a property owner to bring unique product to the market. This could be considered closely related to equitable principles which provide private property owners with private property rights, including the right to choose how they bring their property to the market through sale or lease agreements. Clearly this phrase is already applicable to patented invention, given the novel requirements required for patenting an invention mean that it must be unique, regardless of whether it is a college student or some other non-practicing entity that is the owner. Unfortunately, while this would be a good basis for establishing irreparable harm, it is never mentioned outside the summary, so there is no way of knowing how the court viewed this issue.

Indeed, instead of addressing these six factors mentioned in its summary, the body of the opinion provides four reasons why there is no irreparable harm. The first of these is was that; 'MercExchange exhibited a "lack of commercial activity in practicing the [relevant] patents" and

⁶⁰⁹ Carter-Johnson, Jennifer, Defining Limits to the Application of the Statutory Experimental Use Exception within the Agricultural Biotechnology Industry (October 8, 2014). Michigan State Law Review, Vol. 2015, 2015. Available at <https://ssrn.com/abstract=2849834>

⁶¹⁰ 500 F. Supp. 2d 556 p572

instead exhibited a "willingness to license its patents."⁶¹¹ Second; 'MercExchange's public and private actions indicate its desire to obtain royalties from eBay.⁶¹² Third; 'MercExchange never sought a preliminary injunction against eBay.⁶¹³ And the fourth, 'the '265 patent is both a business method patent and a patent which appears to rely upon a unique combination of non-unique elements present in prior art, and although such patent is presently valid and enforceable, the nature of the patent causes the court pause because, as previously recognized by this court," there is a growing concern over the issuance of business-method patents which forced the PTO to implement a second level review policy."⁶¹⁴ All of which allowed the court to conclude that ;

'Such factor, similar to those discussed above and below, is plainly not dispositive; however, on these fact: it is yet another factor in the calculus indicating both that Mere-Exchange is not being irreparably harmed by eBay's infringement and that money damages are adequate.⁶¹⁵

None of these reasons are equitable principles, the first three merely providing the definition of a non-practicing entity which desires to maximise the royalties from their property by allowing as much use as is possible, and the fourth representing concerns about the validity of the patent. As such it must be concluded that their analysis of irreparable harm was more of an indictment of non-practicing entities, than an assessment of equitable principles. This indictment of non-practicing entities however did not finish with the first factor, it continued in the remaining three factors.

With respect to an "adequate remedy at law" the court basically argued that because MercExchange was seeking royalties from eBay, that monetary damages must represent an adequate remedy. More specifically they stated that;

'Utilization of a ruling in equity as a bargaining chip suggests both that such party never deserved a ruling in equity and that money is all that such party truly seeks, rendering monetary damages an adequate remedy in the first instance.⁶¹⁶

From a non-practicing entities' prospective this statement is naturally quite concerning, as it suggests that because injunctive relief will enhance their bargaining position, it should not be provided to them. Such a suggestion is quite extraordinary, for if it were real property it would be like saying; because restrictions on trespass enhance the bargaining position of land owners, trespass rulings should not be provided to any landowner who indicates a desire to either rent or sell their land.

That said; as it is a truism that because non-practicing entities are primarily interested in monetary rewards for the use of their property, it must be true that monetary rewards will be sufficient to remedy any damages that they incur. This truism does not however divert attention away from the question whether it is the owner or the court which should determine the rate

⁶¹¹ *Id.* p570

⁶¹² *Id.* p572

⁶¹³ *Id.* p573

⁶¹⁴ *Id.* p574

⁶¹⁵ *Id.* p573

⁶¹⁶ *Id.* p582

that paid for the use of the property. If this statement creates a binding precedent, then any user can infringe upon a non-practicing entities property, secure in the knowledge that the worst thing that will happen to them is that at some distant date, they will have to pay court ordered damages. The amount paid, and date those damages must be paid, being influenced/determined, by the legal resources which they are able to dedicate to the case. Obviously for large users with practically limitless legal resources, such a precedent would almost entirely eliminate the need to engage in good faith negotiations with small intellectual property owners with little legal resources.

Which is not to say that the owners will not eventually receive damages, or even enhanced damages, just that it would provide a significant negotiating advantage to infringers, and corresponding disadvantage to owners. While it may be the case that the court accepted eBay's contention that MercExchange was a patent troll intent on using injunctive relief as a tool to extort excessive royalty payments from eBay, this statement is of such a general nature that discriminates against all non-practicing entities regardless of the reasonableness of their licensing demands.

On the third factor relating to "balance of harm" the court reached a conclusion which was also based on a discriminatory attitude towards non-practicing entities. This discrimination being readily apparent in the following statement;

'MercExchange appears to exist solely to license its patents to established internet companies that either infringe or are fearful of litigation if they potentially infringe; MercExchange's specialization in obtaining fees through threatened litigation suggests that it will not suffer a hardship from a similar resolution of the instant matter.'⁶¹⁷

The fact that the court states that MercExchange "will not suffer a hardship" even though a central pillar of their negotiating power, "the right to exclude" is withheld from them is quite reviling. If there were no bias the statement could have been written as follows;

MercExchange appears to exist solely to license its patents to established internet companies that either infringe or are fearful of litigation if they potentially infringe. As patent protection generally include the right to exclude and that right is an essential part any licensing negotiations, depriving MercExchange of that right; represent a hardship in terms of both their patent rights and their ability to negotiate the licensing agreements they desire. The question is; whether this hardship is greater than the hardship which would be experienced by the infringer if injunctive relief is granted.

Such a statement in no way eliminates the possibility that the harm to eBay would be greater than the harm to MercExchange, indeed it would appear to add more credibility to such an assessment as it does not deny the undeniable harm done to MercExchange.

Finally in terms of "public interest" while the court recognised there was a public interest to ensure that the integrity of the patent system was preserved, it stated that public interest 'cannot be allowed to dominate such analysis lest a presumption results.'⁶¹⁸ They then go on to state that 'that MercExchange has never sought to defend its right to exclude; to put credence in such claim at this late stage would not serve equity nor the public interest' which can be

⁶¹⁷ *Id.* p584

⁶¹⁸ *Id.* p586

interpreted as suggesting that because MercExchange choose not to invoke their right to exclude while either negotiations or the trial were ongoing, there is no public interest in defending their right to exclude. In addition to being discriminatory toward non-practicing entities, what this analysis fails to recognise is that there exists a public interest in ensuring that judicial system does not replace negotiations between owners and users with respect to determining what are the appropriate licensing terms.⁶¹⁹

While it is clear that the District Courts interpretation of the Superior Court ruling was a step backwards on the path to correlated intellectual property rights, this does not mean that the four-factor test is incompatible with an application of the correlated rights doctrine. This compatibility can be demonstrated by using an alternative interpretation of the test. For the purposes of illustrate how applying the correlated rights doctrine could conform to the four-factor test two assumptions will be made. First that the patent owner is a non-practicing entity. Second that discretion provided to the courts is not limited to merely ascertaining a cumulative series of four binary tests, all of which must favour the defendant in order for an injunction to be granted, but rather requires an assessment four subjective tests to determine on balance who the sum of those factors most favours.⁶²⁰ This rejection of the notion of some form absolutist binary test is assumed because it would be virtually impossible for the vast majority of patents owners to meet that cumulative test, and which would represent such a profound change with respect to availability injunctive that it would be the equivalent "writing on an entirely clean slate".⁶²¹

Taking each of four types of intellectual property categorised in Chapter eight in turn, the first type to considered under the four-factors is *standalone discretionary intellectual properties*.

⁶¹⁹These question about the application of the four-factor test are naturally not new to legal scholarship. Much of the same concerns have been included in a number of articles ever since to ruling in *eBay v MercExchange*. A few of the most closely aligned with this analysis being: Seaman, Christopher B., Permanent Injunctions in Patent Litigation After eBay: An Empirical Study (August 17, 2015). 101 Iowa Law Review 1949 (2016); Washington & Lee Legal Studies Paper No. 2015. "The Supreme Court decision in eBay has ushered in a new era in patent remedies by creating a bifurcated system of property rules and liability rules for different categories of patentees. Little has changed for prevailing patentees who compete in a product market against an infringer, as they still obtain permanent injunctions in the vast majority of cases. In contrast, PAEs are generally subject to a liability rule because they rarely can obtain an injunction at the trial court level. This dichotomy may have a negative impact on certain types of non-practicing entities by effectively eliminating their right to exclude others from practicing the patented technology. Moreover, it appears to conflict with the Court's own conclusion in eBay that such a "categorical rule" is inappropriate in determining entitlement to equitable relief." p 2006; Michael W. Carroll, *Patent Injunctions and the Problem of Uniformity Cost*, Working Papers Series (Villanova University School of Law, 2007) "Going forward, district courts and the Federal Circuit should attend to the functional considerations relevant in the patent context to the traditional four-factor inquiry. A uniform approach to injunctions increases the social costs of the patent system. But the diversity of issues raised in equitable proceedings is not infinite. While each case will come to court with its own equities, salient facts are likely to be repeated." p 443; Chao, Bernard, *After eBay, Inc. v. MercExchange: The Changing Landscape for Patent Remedies* (Minnesota Journal of Law, Science & Technology, Vol. 9, No. 2, 2008), "As a threshold matter, the courts must determine what fact patterns are important in deciding whether to grant permanent injunctions." p 571; Solomon, Neal, Analysis of the 'Four-Factor Test' in Patent Cases Post-*eBay* (June 11, 2010). Available at <https://ssrn.com/abstract=1623978> "The Supreme Court needs to revisit these important issues and clarify the standards for injunctions in patent cases. eBay solves a minor problem but causes several major problems. Moreover, eBay creates a bifurcated compulsory licensing regime that ultimately harms innovation incentives that Article I rights were created to foster. It is patently obvious that the Court needs to clarify the standards for application of the factors of the "four-factor test" if they are to maintain the integrity of the patent system." p 45

⁶²⁰ Laycock, *Remedies*, (2010) 'the overwhelming weight of authority in the lower courts had been that the four-factors are part of a balancing test or a sliding scale' at 444

⁶²¹ Chief Justice Robert, Concurring Opinion. *eBay Inc. v. MercExchange, LL*, 547 U.S. 388 (2006)

With respect to proving that the standalone discretionary owner has suffered and will suffer irreparable injury the owner's argument in favour of this factor could revolve around loss of control of an independent creation which forms an integral part of the owner's persona.⁶²² The very notion that the right to use an innovation which is created solely from the creative efforts of an inventor is not under the control of that inventor, would be tantamount to suggesting that inventor is somehow deficient and not qualified to make decision as to use of their sole creation. Such an implication quite obviously would create irreparable injury and as such would place this factor strongly in favour of granting injunctive relief.

With respect to the inadequacy of remedies at law to compensate for the injury, the primary consideration should likely be the inability to quantify the value of a unique standalone property. In the case of a non-practicing entity quantifying damages would require the court to make an estimate of the life time value any licences that the owner could negotiate on an innovation when there is no comparable product in the marketplace, and then divide that value by the percentage share of the market place that the infringer is expected to sustain. Given the near impossibility of this task this factor must also strongly favour the granting of injunctive relief.

As to the balance of harm factor since the first factor deals with the harm to the owner, this factor must primarily be about the harm to the infringer. It could be argued that without the unique creative efforts of the inventor the unique standalone innovation would not exist, and as such theoretically being unable to use what would otherwise be a non-existent innovation provides no harm. However even assuming that the invention could have been created by another inventor, the mere fact that the innovations use is of a discretionary nature suggest there can be little harm from providing injunctive relief, as the use is entirely discretionary. This negligible harm would mean that this factor also strongly supports granting injunctive relief.

Finally, there is the factor related to whether public interest would be served by an injunction. With respect to this factor the issue should be about the benefits derived by society from innovation and competitiveness in the marketplace that results from standalone discretionary inventors having access to injunctive relief. If either granting or withhold injunctive relief would improve these characteristics obviously society would be better off. However, the fact that no western society prohibits injunctive relief for standalone discretionary innovations, would tend to support the notion that having access to it is considered to be beneficial to both these characteristics. Further the possibility of a major company in one industry being able to infringe on the innovation and use their financial and marketing power to become dominate in another, would be anathema to the any pretences of enhancing free market competition. As such at the very least this factor also at least supports if not strongly support the granting of injunctive relief.

Taken together and given that all four of these factors either support or strongly support the granting of injunctive relief it would appear rather obvious that on balance: the four-factor test indicates that in most cases injunctive relief should be granted when it is a when it is a standalone discretionary property.

With respect to *standalone essential intellectual properties*, it is clear that the first factor could use the same argument which was used for standalone discretionary properties and would

⁶²² Nestor M. Davidson & Rashmi Dyal-Chand, Property in Crisis, 78 Fordham L. Rev. 1607, (2010) 'One of the more influential concerns articulated about the state's role in property rights is Michelman's idea that certain types of state action [cause] 'demoralization costs.' These costs derive from the uncertainty and disaffection that people feel when faced with interference with their expectations about their entitlements.'" at 1657

strongly support the grant of injunctive relief, as the owner would suffer the virtually the same irreparable injury.

However, the inadequacy of remedies would be even greater for an essential property. This because as any economist will testify, when an innovation is essential for the well-being of an individual, the only limit to the amount that they are willing to pay is the amounts that they have available to pay. This unlimited potential for draining the wealth of those that need the essential property is quite unquantifiable, and as such proves the inadequacy of alternative legal remedies to compensate for injuries, making the second factor strongly supportive of the grant of injunctive relief. This however is not the case with the next factor.

Unlike with standalone discretionary properties, because standalone essential properties are by their nature essential to the well-being of users, being denied that use would obviously be very detrimental to users. Depending on the degree of harm that non-access would represent this would make this factor either opposed to or strongly opposed to grant of injunctive relief.

Assuming that the final factor of public good is focused solely on innovation and competition in the market it would naturally provide a similar level of support for injunctive relief. However, because most societies maintain a moral conscience which places the well-being of their members ahead of corporate profits, it is likely that public interest at best would be neutral and may even be opposed to injunctive relief.

This then provides a situation where two of the factors likely strongly support injunctive relief and two do not. Deciding which factors should have the most weight should therefore fall the discretion of the court, which should need to balance the harm to potential users against the harm to owners.

When considering the four-factors as they relate to *correlated discretionary intellectual properties* all the arguments change, at least to some extent. The first factor changes because unlike with standalone properties the creation of correlated properties does not involve as unique a creative effort as there is with standalone properties. Which is to suggest that because integrated technological properties are being simultaneously developed by a number of inventors, it is almost certain that the invention would have been produced by another party, if it had not been done so by the patent owner. Although this should not eliminate the argument about being harmed by loss of control the use of their creation, it does perhaps diminish it. This diminishment of an integral part of the owner's persona is further diminished by the fact that the inventor must have used the innovations from others who had contributed to integrated technology to create their invention. To the extent that they did so, it would be hypocritical to suggest their loss of control, is more significant than the loss of control which they perpetrated on others. Taken together these considerations likely change the analysis from strongly supportive of injunctive relief to merely supportive of injunctive relief.

A similar shift can be seen in the second factor. This because unlike with standalone properties, there may exist markets for comparable products which could allow the courts to make a reasonably accurate estimate of the value of the innovation. Depending on how accurate the estimate is it may even move this factor to a neutral position relative to whether to grant injunctive relief.

With respect to the third factor. Although there is little harm which result from an injunction against the use of a discretionary invention, it may harm other contributes to the integrated technology as it represents a lost opportunity to make that integrated product even better.

Given this nuance this factor likely moves from being in strong support of injunctive relief to merely being support of injunctive relief.

Finally, the questions about if injunctive relief is in the public interest. This factor is the only one which remains in strong support of granting injunctive relief, not because of innovation issues but because of competition issues. The argument for this is as follows; if non-practicing entities cannot seek injunctive relief against the technology manufacturers who dominate their particular technological market, this will mean that those technology manufacturers can unilaterally decide whether they want to use any correlated innovation, which means that there would be no chance of another competitor developing a competitive advantage which could challenge them.

Balancing all these factors out it would appear a judgement in favour of granting injunctive relief for correlated discretionary intellectual properties would be the most likely outcome.

Finally addressing the analysis of *correlated essential intellectual properties* according to the four-factor test. The first two factors remain supportive of injunctive relief as there is not much in these factors which differentiate correlated essential properties from correlated discretionary properties. There are however big changes with the last two factors.

In terms of the balance of harm, obviously when correlated properties are essential to an integrated technological product; the lack of access to those properties harms not only the viability of the infringer, but also the viability of the other owners who have contributed their own intellectual properties to the technology. This potential for harm is precisely what so called patent trolls use to coerce excessive licensing demands out of users. Obviously if the choice is between going out of business and paying an excessive licensing fee there are no good options. All of which places this factor firmly in strong opposition to the grant of injunctive relief as far as correlated essential intellectual properties.

Also in opposition, would be the interests of the public. This because unlike with correlated discretionary properties non-access to essential properties can eliminate both innovation and competition. It eliminates innovation because if the reward of other patent owners are appropriated by a patent troll, they will have no incentive to innovate. It eliminates competition because if a single owner gets to decide who has the right to produce an inherently integrated technological product it is not competition but rather a monopoly.

Combining the first two supportive with the last two strongly opposing factor it is easy to see why this method would generally result in decision that withheld injunctive relief.

While this example illustrates that the four-factor test could have the same results of applying the correlated rights doctrine, it is not as efficient as applying the doctrine. An application of the doctrine representing a rather straightforward expansion of the historical equitable safety valves which were used to rebut the presumptive rights to injunctive relief when repeated and ongoing instances of trespass or infringement were found.⁶²³ This expansion would involve a determination of the standalone/correlated nature of the disputed IP. If it was determined that it involved a standalone IP, which was developed by a single entity and it did

⁶²³ Gergen, et al, *Accidental Revolution* (2012) 'Importantly, injunctions are used where the defendant is engaged in repeated acts and the injunction can prevent a multiplicity of lawsuits. A dramatic example is trespass to land. Originally, and still in a nominal sense, it was said that equity "will not interfere in a case of a mere trespass." But the traditional rule that equity would not enjoin a trespass became subject to the major exception that equity would enjoin repeated trespasses. Consequently, in situations where the trespass is repeated or continuing, an injunction will automatically issue—or more accurately, a rebuttable presumption in favor of an injunction will arise. That presumption can in turn be overcome by a defendant's showing of undue hardship.' at 235

not rely on the IP of others to fulfil its claims, the presumptive right to injunctive relief would be maintained. If it was determined that it involved a correlated IP which was built upon and relied upon other IP to fulfil its claims, the presumptive right to injunctive relief would be nullified.

It should be noted that just because the presumptive right to injunctive relief would be nullified by a determination that the disputed IP was correlated, does not mean the injunctive relief would not be available. For example; it would still be available if the owner could prove that the infringer was an unwilling licensee or that the ongoing infringement was causing disproportional harm to the owner.

Finally, it will be noted that this analysis was focused on the eBay decisions and did not mention the Orange book decision. This is because the German Federal Courts decision with respect to providing injunctive relief for the most part can be seen as a step forward on the path to applying correlated intellectual rights.⁶²⁴

9.2.2 Calculating Reasonable Royalties

Although the Orange Book decision may not have contained a step backwards when it comes to injunctive relief issues, both it and the eBay decision do contain an implied step backwards in terms of how reasonable royalties would be calculated under an application of the correlated rights doctrine. This because inherent in both decisions; is an implied and almost exclusive reliance on existing licensing agreements to calculate reasonable royalties using the "hypothetical negotiation" methodology. The implied reliance in eBay, is a direct result of Chief Justices Robert's concurring opinion, in which he cited quotes suggesting that judicial discretion was not a whim, and historical precedents were more valuable than logic.⁶²⁵ As mentioned earlier, this quite naturally has increased the focus on the fifteen factors included in the 1970 *Georgia Pacific* case, which 'attempts to create a "hypothetical negotiation" between the parties for a license that would have occurred prior to the infringement.'⁶²⁶ The reliance in the *Orange Book* case being implied by the references to the 3% royalty rate incorporated in other licensing agreements which were concluded for the patent pool in dispute.⁶²⁷

The problem with using existing licensing agreements to determine a hypothetical negotiation is that those agreements tend to undervalue the true value of almost all correlated intellectual properties.⁶²⁸ This obviously would be a step backwards in terms of applying the correlated rights doctrine, given its intent is to ensure that all intellectual property owners

⁶²⁴ See below: The Path Forward.

⁶²⁵ eBay v MercExchange at 1847

⁶²⁶ Ted M. Sichelman, *Innovation Factors for Reasonable Royalties*, Legal Studies Research Paper (University of San Diego, 2017) p 17; Risch, *(Un) Reasonable Royalties*, (2016) "But the real problem is that the *Georgia Pacific* factors should have never been adopted as a matter of doctrine or tradition. The current critiques bear that out, but history shows that a) proposals to abandon them are not without some basis in historical doctrine, and b) proposals to continue their use must show why" at 22

⁶²⁷ BGH Orange Book Standard at 378, 386

⁶²⁸ See e.g.: Jarosz and Chapman, *The Tail Wagging the Dog*, (2013) "Unfortunately, reliance on the hypothetical negotiation construct has, to some degree, reversed the proper relationship between damages and tools to estimate those damages. That is, much of the focus of royalty estimation over the past forty years has been placed on proper implementation of the hypothetical negotiation process, rather than on evaluation of whether the damages are fair in light of the specific use of a specific invention." at 773; Epstein and Noroozi, *Threaten to Dismantle FRAND*, 2017 "More broadly, we suggest that courts, policymakers, and academic commentators have wrongly favored implementation over innovation—"things" over ideas—unwisely frustrating the emergence of an "ideas economy" that correctly assigns profits to upstream innovators, and not to the low-margin firms that specialize in developing their commercial embodiments." p 2

receive their fair share of the total value which the inherently aggregate properties provide to the technological product. This tendency of existing licenses to undervalue the value which is provided, can be attributed to five issues which are; 1) the use of legal attrition to force intellectual property owners to accept lower royalty rates, 2) the downward pressure that competition authorities place on property owners to lower their royalty rates, 3) the downward spiral which results from non-discriminatory licensing requirements which force property owners to lower their royalty rates to the lowest rates previously licensed, and 4) comparisons with licenses of other property owners which reflect rates which are lower than the owner's licensing rates. To illustrate how these issues can lead to an undervaluation of the disputed intellectual property, actual examples of each will be provided.

Lower Royalty Rates through Legal Attrition and the Threat of Legal Attrition

A good example of how legal attrition can be used to lower royalty rates charged by intellectual property owners, are the litigation delays faced by Telefonaktiebolager LM Ericsson (Ericsson) in India.⁶²⁹ Ericsson is one of the three largest contributors of intellectual property to the mobile telecommunication industry. In November of 2009 it contacted two companies in India, (MircoMax and Intex), alleging that they were selling products which infringed on Ericsson's patents and offering to enter into licensing negotiations. Micromax is an Indian company which claims to be the 12th largest mobile phone handset manufacturers in the world. Intex is also an Indian company which unlike Micromax sources the mobile phones it sells from third party manufactures in China. For the purposes of this example only the Micromax history will be discussed but a similar history arose with respect to their interaction with Intex.

Micromax replied to Ericsson's communication by indicating that they could not respond to Ericsson's letter without details of the patents Ericsson alleged they were infringing. In February of 2010 Ericsson provided Micromax with details of some of the standard essential patents they owned, and which had to be practiced to manufacture mobile phones, once again requesting a meeting, as well as asking Micromax to sign an NDA for those meetings.

One and a half years later, on 28th of April 2011 the first meeting was held during which Micromax demanded more information on Ericsson's patents. Almost a year later and after further meeting and much correspondence Ericsson and Micromax executed an NDA on January 12, 2012. Over a year later after seeing no progress in the negotiation Ericsson filed a patent infringement claim against Micromax on March 4th, 2013.⁶³⁰ On the 6th of March the High Court of Delhi passed an ad-interim order directive the Customs to notify Ericsson when consignments of mobile phones were being imported to India by Micromax. Micromax appealed the order within days.

On March 19th the High court in Delhi issued a notice on the appeal and passed an order with the consent of the parties which said;

'1. Ericsson and Micromax agree to negotiate a FRAND License Agreement for the next one month, based on FRAND terms.

⁶²⁹ This history is detailed in *Ericsson v. Competition Authority of India* W.P.(C) 464/2014 Judgement delivered 30.03.2016.

⁶³⁰ CS (OS) No. 442/2013 High Court of Delhi at New Delhi

2. Micromax/Customs shall intimate Ericsson's notified person or counsel for Ericsson whenever a consignment arrives at the Customs. Ericsson's representative or its counsel will, without any delay and within twenty-four hours, take inspection of the consignment.

3. Micromax shall then, pending final determination of royalties payable by the parties, agree to abide by the following interim payments as per term sheet enclosed with letter dated 05th November, 2012, purely as an ad-interim arrangement and subject to the final outcome of its negotiations with Ericsson.

- A. For phones/devices capable of GSM - 1.25% of sale price.
- B. For phones/devices capable of GPRS + GSM - 1.75% of sale price.
- C. For phones/devices capable of EDGE + GPRS + GSM - 2% of sale price.
- D. WCDMA/HSPA phones/devices, calling tablets - 2% of the sale price.
- E. Dongles, data cards - USD 2.50.

Micromax undertakes to make a deposit of interim payments in Court, as set out above, within five working days of the intimation by Customs of the arrival of the consignment. Post inspection, Ericsson will forthwith inform the Customs that it has no objection to the release of the consignment so that the consignment could immediately be handed over to Micromax.

Both the parties agree that the royalties, if any, for the past period will be negotiated as part of the final FRAND agreement that may be arrived at between the parties.⁶³¹

This order was extended on the 10th of April 2013 and a mediator was appointed. The mediator filed a report that voluntary mediation efforts were unsuccessful and on the 10th of May 2013. On the 24th of June 2013 Micromax filed a competition complaint with the Indian Competition Authorities.⁶³² On the 12th of November 2014, (five years after Ericsson had first contacted Micromax) the interim application was modified by an order of the High Court of Delhi. That order directed Micromax to pay royalties as follows:

'From the date of filing of the suit till 12th November, 2015:-

- i. For phones/ devices capable of GSM - 0.8% of net selling price;
- ii. For phones/ devices capable of GPRS + GSM - 0.8% of net selling price;
- iii. For phones/devices capable of EDGE + GPRS + GSM - 1% of net selling price;
- iv. WCDMA/HSPA phones/devices, calling tablets - 1% of the net selling price.

From 13th November, 2015 to 12th November, 2016:

- i. For phones/ devices capable of GSM - 0.8% of net selling price;
- ii. For phones/ devices capable of GPRS + GSM - 0.8% of net selling price;
- iii. For phones/devices capable of EDGE + GPRS + GSM - 1.1% of net selling price;

⁶³¹ Ericsson v. Competition Authority of India p16-17

⁶³² Case No. 50, 2013.

iv. WCDMA/ HSPA phones/devices, calling tablets - 1.1% of the net selling price.

From 13th November, 2016 to 12th November, 2020:

- i. For phones/ devices capable of GSM - 0.8%) of net selling price;
- ii. For phones/ devices capable of GPRS + GSM - 1% of net selling price;
- iii. For phones/devices capable of EDGE + GPRS + GSM 1.3% of net selling price;
- iv. WCDMA/ HSPA phones/devices, calling tablets - 1.3% of the net selling price.⁶³³

It should be observed that this second order reduced that rates of the first order by nearly 50%. (GPRS + GSM from 1.75% to 0.8%, WCDMA/HSPA from 2% to 1.1%), which clearly indicates that legal attrition can help to reduce rates. It should be further mentioned that as of March 2017 the infringement case has still not been decided by the Court, which means that it has been nearly eight years that Micromax has been allowed to use Ericsson's patents without a license. Fortunately for Ericsson they have the legal resources to sustain this level of legal attrition, but other do not.

One of the best examples of a situation where a company did not have the resources to withstand the effects of legal attrition, is the prolonged litigation encountered by another intellectual property owner in the mobile telecommunications industry, *Unwired Planet*.⁶³⁴ Unwired Planet were owners of a patent portfolio which included several patents which were declared essential for various telecommunications standards.

Unwired Planet contacted Samsung about licensing its patents in October of 2012 which can be considered the commencement of their licensing negotiations with Samsung. In January of 2013, they dramatically increased the size of their patent portfolio by purchasing a significant number of patents from Ericsson, under a Master Sales Agreement, (MSA). 'Unwired Planet's initial aim was to contact and commence negotiations with various manufacturers they had identified with a view of closing three deals by the end of the year.'⁶³⁵ 'By August 2013, according to Mr. Robbins, Unwired Planet had contacted 27 manufacturers and was in "active conversations" with 14, whilst the remaining 13 had "refused to engage with us at all". In oral evidence, Mr Robbins stated that there was not "much market interest in even discussing rates" and that he had hardly managed to "speak about economics with anybody", it being "largely technology discussions". Before me Unwired Planet contended that this shows that the licensees in general were *holding out*.⁶³⁶ [italics added] In March of 2014 Unwired Planet sued Huawei, Samsung and Google for infringement of six UK patents in the UK. 'After the proceedings began, in April 2014, Unwired Planet made an offer to the defendants to license its entire global portfolio (SEPs and non-SEP's)'.⁶³⁷ 'The defendants denied infringement/essentiality and contended that the patents were invalid, counter claiming for revocation. So, they said, no license was needed. They also contended that Unwired Planet's offer was not FRAND. In addition, Huawei and Samsung raised defences and counter claims based on breaches of

⁶³³ *Id.* p 16-17

⁶³⁴ The history of Unwired Planet's litigation experience is included in a recent ruling by the UK High Court of Justice which was deciding an infringement claim by Unwired Planet against Huawei Technologies, Case No: HP-2014-00005 *Unwired Planet International Ltd and Huawei Technologies Co. Ltd.* decided 05/04/2017

⁶³⁵ *Id.* para. 66

⁶³⁶ *Id.* para. 69

⁶³⁷ *Id.* para. 5

competition law.¹⁶³⁸ 'After the April 2014 offer Unwired Planet made a further offer in July 2014. The terms of these and other licensing offers are difficult to summarize but at this stage it can be said that the SEP royalty rates in the July 2014 proposals were global rates of 0.2% for 4G/LTE and 0.1% for other standards (i.e. GSM/UMTS).

'The dispute was to consist of a series of trials, ... First would be five "technical" trials relating to the validity and infringement/essentiality of the six patents.¹⁶³⁹ 'After the technical trials would be the non-technical trial in autumn 2016.¹⁶⁴⁰ 'By about April 2016 three technical trials had been completed and the parties agreed to postpone any further technical trials indefinitely. By that stage Unwired Planet had won two and lost one of the technical trials. Two of Unwired Planet's patents had been found to contain claims which were held valid and were essential to the relevant standards while the other two patents were held invalid.¹⁶⁴¹

'Also in about April 2016, the claimant company and the tenth party (Unwired Planet LLC) were acquired by PanOptis, a group ultimately held by PanOptis Holding LLC.¹⁶⁴² 'In the summer of 2016 Samsung settled with Unwired Planet and Ericsson. As a result of that settlement, proceedings against Samsung ended and, with the court's leave, Samsung's competition law counterclaim was discontinued.¹⁶⁴³ 'the Unwired Planet-Samsung license was entered into on the 28th July, 2016.¹⁶⁴⁴

'Under the license Samsung paid Unwired Planet US [...] and assigned a portfolio of 20 patent families in return for a worldwide license under Unwired Planet's SEPs and non-SEPs portfolio until [...] together with a release of any past damages. Before one decides how much weight to place on any royalty rate information derived from the license, Unwired Planet contends that this license cannot be seen in isolation and needs to be considered in the context of a wider arrangement between PanOptis and Samsung and the distressed financial position Unwired Planet was in when acquired by PanOptis.¹⁶⁴⁵ 'Unwired Planet's version of the context relevant to understanding this license is the following. PanOptis is a licensing company. It has an existing relationship with Ericsson. It had considered buying the Unwired Planet portfolio in 2014 but did not. In March of 2015 PanOptis offered \$75 million for the portfolio but Unwired Planet wanted \$100 million and no deal was done. From about July of 2014 PanOptis began having commercial discussions with Samsung. They included the possibility of Samsung taking a license under other PanOptis telecoms patent portfolio and by the summer of 2015 they included the possibility of a wider strategic partnership. In July 2015 Unwired Planet approached PanOptis again, this time about purchasing the licensing companies themselves.¹⁶⁴⁶ 'There were various negotiations and by March of 2016 PanOptis dropped its offer price from \$50 million to \$40 million due to Unwired Planet's worsening financial position.¹⁶⁴⁷ 'Mr Ware said that PanOptis was able to purchase Unwired Planet for a price which did not represent the value of Unwired Planet's patents. In his view that was because Unwired Planet was on the verge of insolvency¹⁶⁴⁸ 'Once

⁶³⁸ *Id.* para. 5

⁶³⁹ *Id.* para. 2

⁶⁴⁰ *Id.* para. 3

⁶⁴¹ *Id.* para. 9

⁶⁴² *Id.* para. 9

⁶⁴³ *Id.* para. 10

⁶⁴⁴ *Id.* para. 390

⁶⁴⁵ *Id.* para. 392

⁶⁴⁶ *Id.* para. 400

⁶⁴⁷ *Id.* para. 403

⁶⁴⁸ *Id.* para. 404

PanOptis had purchased Unwired Planet it approached Samsung and the license was concluded in a very short order.⁶⁴⁹

'My finding on the context in which the 2016 Unwired Planet -Samsung license arose is as follows. By the time it was purchased Unwired Planet was in serious financial trouble. The only license Unwired Planet had been able to agree was with Lenovo and Unwired Planet was engaging in very expensive multinational patent litigation in an effort to establish its rights. By late 2015-early 2016 Unwired Planet was close to insolvency. ... As regards his discussion with Samsung, the picture Mr. Ware painted of the reality of the high level negotiations with that major multinational organization was convincing and credible. PanOptis had the ability and means to buy Unwired Planet in any event but I find the key reason why PanOptis did buy Unwired Planet when they did and for the price they paid was in order to build trust with Samsung and because Samsung were prepared to take a license under the portfolio in a deal with a cash component [...]. The purchase was being "de-risked", as Mr Ware put it.'⁶⁵⁰

'These findings about the context of the license together with the findings about low rates in the licence itself support one another. I conclude that the license does not represent useful evidence of the market value of the Unwired Planet patent portfolio.'⁶⁵¹

What this description of events, (all drawn from the *Unwired Planet v Huawei* case) and the Judge's finding prove, is that a well-resourced technology manufacturer like Samsung can significantly reduce the royalty rates that pay for intellectual property when they engage in legal attrition against a less well-resourced intellectual property owner like Unwired Planet. This is a fact which all small intellectual property owners must contend with and why many will except lower rates (than what their property is worth) simply to avoid the existential threat of legal attrition.

Downward Pressure by Competition Authorities.

With respect to competition authorities pressuring intellectual property owners to reduce their royalty licensing rates, the best example is likely the pressure which the Chinese competition authorities (NDRC) put on Qualcomm Inc.(Qualcomm), one of the leading suppliers of intellectual property to the mobile phone industry.⁶⁵² To put this pressure into to a historical context, it should be mentioned that Qualcomm became a major supplier of intellectual property when their proprietary Code Division Multiple Access technology was integrated into the 3rd generation mobile networks. Before the integration they were producing their own proprietary mobile phones and base stations, in competition with the dominate GSM standard. Once their CDMA technology was integrated, they sold off both their mobile phone and base station operations and focused on production of chipsets and licensing their technology. The first major litigation which they faced when licensing their technology was an infringement suit against Nokia Corp. (Nokia), who were the largest mobile phone manufacturer at that time.⁶⁵³ Although this case was settled before the court ruling there were notable features of the litigation which are relevant to Qualcomm's ongoing licensing practices, and an application of

⁶⁴⁹ *Id.* para. 405

⁶⁵⁰ *Id.* para. 408

⁶⁵¹⁶⁵¹ *Id.* para. 409

⁶⁵² People's Republic of China National Development and Reform Commission *Administrative Penalty Decision Book* (Feb. 2015), Unofficial English Translation will be used in this analysis which results in 9 pages of text.

⁶⁵³ *Qualcomm Inc. v. Nokia Corporation*, Case No.3:05-cv-02063 in the California Southern District Court.

the correlated rights doctrine. These features were that the litigants disagreed on both the value of the aggregate technology and Qualcomm's share of that value. With respect to the value of the aggregate technology it appeared that Qualcomm was arguing for a value which was the 20% of the price of a mobile phone, whereas Nokia argued that the aggregate value should be 10%. In order to determine Qualcomm's contribution to that aggregate, Nokia sponsored a report which indicated that nearly 12% of the essential patents used for the 3rd generation standard were owned by Qualcomm.⁶⁵⁴ This is relevant to Qualcomm's ongoing licensing practices, because it can be assumed that Qualcomm has used the same calculation method for determining its offered royalty rate in subsequent licensing negotiations. It is relevant to an application of the correlated rights doctrine because this is precisely the methodology which would be used when determining reasonable royalties under an application of the doctrine.

It should be further noted that in their general licensing negotiation, Qualcomm has always insisted that any technology manufacturer which wanted to purchase their chipsets must first agree a licensing agreement with Qualcomm. From Qualcomm's prospective this made commercial sense, as every technology manufacturer that wanted to use their chipsets would by definition be using their intellectual property and as such refusing to sell chipsets without a license ensured that their intellectual property was not used without authorization. Further because Qualcomm chipsets are considered to be the best available in the market, this policy has resulted in Qualcomm being able to conclude licensing agreements with a highest proportion of technology manufacturers in the industry, at royalty rates which are also the highest in the industry.

Unsurprisingly, the fact that Qualcomm has been able to extract the highest level of royalties has resulted in some of those technology manufacturers complaining to their local competition authorities, in an effort to help them reduce the rates which they were paying. Which is presumable the reason why the NDRC investigated Qualcomm's licensing activities in 2014.

In their decision the NDRC found that Qualcomm had abused their dominate position in both the market for its intellectual property and broadband chipsets, to extract "unfairly high-priced licensing fees" and fined the company an equivalent of USD 975 million.⁶⁵⁵ While the dominance of Qualcomm in the two markets is incontrovertible, the proposition that they were charging excessive licensing fees is less sustainable.⁶⁵⁶ This because all of the four activities which the NDRC described as abusive can and should be considered entirely in keeping with reasonable licensing behaviour and the NDRC provide no proof what so ever that the company was charging more than their fair share of the aggregate value that the combined intellectual properties provide to the current smartphone products.

The first allegedly abusive behaviour was derived from the proposition that included in the portfolio of intellectual property which Qualcomm was licensing were patent which had expired.⁶⁵⁷ This of course is a natural consequences of granting patent protection for a limited time period and would have been a valid complaint if Qualcomm was not also continually adding new patents to its portfolio of licensed patents, to make up for the patents which were expiring.

⁶⁵⁴ Goodman Myers Report, *Analysis of Patents Declared as Essential to GSM as of June 6, 2007*. (Fairfield Resources International, December 31, 2007)

⁶⁵⁵ NDRC Decision p 9

⁶⁵⁶ Liyang Hou; Qualcomm: How China has Invalidated Traditional Business Models on Standard Essential Patents. 7 (10), (Journal of European Competition Law & Practice, 2016) 686-689.

⁶⁵⁷ NDRC Decision p 4-5

Indeed, recent estimates suggest that since the Nokia litigation, Qualcomm's share of essential patents for later standards has risen from 12% to 13%.⁶⁵⁸ Given this increase in their percentage share of the aggregate value provided their rates would theoretically be too low rather than too high.

The second alleged abuse was derived from the fact that Qualcomm's licensing agreements included clauses which required some licensee to license their intellectual properties back to Qualcomm for free.⁶⁵⁹ While it is possible that such a licensing term would be abusive, it is not abusive if the license agreement is viewed as a cross licensing arrangement. Under a cross licensing arrangement whichever party has the highest proportion of intellectual property receives a net royalty payment from the party with lower levels of property. To be abusive a cross licensing agreement would have to charge the same royalty rate to all licensees regardless of the properties owned by the licences, and there was no evidence provided that suggested the Qualcomm was doing so. In fact, given that the decision states that "*some licensees and not all licensees*" were forced to provide a free reverse license, it would appear that Qualcomm was willing to recognise and license existing patents from their licensees. As to requiring the licensee to provide free reverse licenses for their future intellectual property, it should be pointed out that under a portfolio licensing agreement Qualcomm would be expected to provide its future intellectual property to the licensee at no extra cost, i.e.: for free. If Qualcomm was expected to provide future intellectual property to the licensees for free, why should the licensees not provide Qualcomm with access to their future intellectual property for free?

The third alleged abuse involved Qualcomm including its non-essential patents in the patent portfolio which it was licensing; rather than just licensing its essential properties.⁶⁶⁰ While it is true that they could unbundle these patents and licence them separately, because royalty rates in the mobile communications industry are based on the licensor's share of essential patents, the royalties for just the essential patents would be the same as for the entire portfolio. Forcing technology manufacturers to license the non-essential patents separately would only drive up their licensing costs. The only real anti-competitive aspect of this bundle was that it could harm alternative supplier of non-essential patents, this however was not addressed by the NDRC, although they did acknowledge that the licenses did not contain any obligation to use Qualcomm's non-essential patents.

The fourth alleged abuse had to do with Qualcomm's unwillingness to sell chipsets to technology manufacturers who did not have a technology licensing agreement with them.⁶⁶¹ According the NDRC this was an abuse because they were using their dominate position in the chipset market to force technology manufacturers to pay higher licensing fees for the use of their technology.⁶⁶² Clearly requiring Qualcomm to provide chipsets to technology manufacturers who do not have a license will encourage the unauthorised use of Qualcomm's intellectual property, just as giving keys potential car renters before they sign licensing agreements will encourage theft. In a best-case scenario, it will severely harm the negotiating

⁶⁵⁸ Federal Trade Commission v Qualcomm Case 5:17-cv-00220 (01/17/17) "One study of declared LTE SEPs found that Qualcomm had a 13% share of "highly novel" essential LTE patents" at 14

⁶⁵⁹ NDRC Decision p 5-6

⁶⁶⁰ *Id.* p 6-7

⁶⁶¹ *Id.* p 7

⁶⁶² This is the equivalent of suggesting that if a car rental company refuses to provide a potential renter with the keys to their cars before a rental agreement is signed, they are abusing their dominate position.

positions of Qualcomm, and provide technology manufacturers with greater possibility of engaging in legal attrition.

Conspicuous by its absence in the NDRC decision is any mention of how a reasonable royalty should be calculated. Rather there is simply an assertion that Qualcomm royalty rates are too high, presumable because they charge more than other licensors.

The decision concluded with a number of orders which require Qualcomm to:

- Provide licensees with list of patents and not charge for expired patents
- Stop including non-essential patents in their licensing portfolio
- Stop using the whole machine price as a basis for calculating royalties
- Stop requiring free reverse licenses
- Stop including licensing terms which prevent licensees from challenging the validity of patents included in the portfolio.
- To pay a USD 975 million fine for the alleged abuses.

Given the questionable nature of the alleged abuses, it would appear rather obvious that prime rational for taking the action and the order which resulted from it; was merely an effort on the part of the NDRC to pressure Qualcomm to reduce its licensing rates. This should not be in any way surprising as the NDRC obviously would want to assist its local technology manufacturers in their licensing activities.

Equally unsurprising is that the competition authorities in South Korea (KFTC) the USA (FTC) subsequently took a similar action to reduce royalty rates for their local technology manufacturers, (Samsung and Apple).⁶⁶³ Surprisingly neither of these authorities justified their actions by indicting that they were attempting to protect their technology manufacturers from low cost competition, rather they simply reiterated one of the Chinese authorities rather questionable alleged abuse claims. In both actions the principle alleged abuse was that: Qualcomm was using its dominate position in the baseband chipset market to force technology manufacturers to accept higher royalty rates.⁶⁶⁴ And again both actions merely supposed that the higher royalty rates were unjustified because licensees are able to obtain lower royalty rates from other licensors.⁶⁶⁵

It is worth noting that the EU Competition authority has also filed two Statements of Objections on exclusive payments and predatory pricing to Qualcomm. Interestingly unlike the Chinese, South Korean and US actions, these are a much more straightforward complaint about

⁶⁶³ Qualcomm's Abuse of Dominance KFTC Decision and Order No. 2009-281, Dec. 30, 2009 (S. Kor.); and Federal Trade Commission v Qualcomm Case 5:17-cv-00220 (01/17/17)

⁶⁶⁴ KFTC Decision "This case is meaningful in that the KFTC is the first to rectify Qualcomm's unfair business model, under which Qualcomm has refused to license competing chipset companies while coercing unilateral license terms on handset companies in order to strengthen its monopolistic power in the patent license market and the chipset market." at 2; FTC Complaint "Qualcomm has excluded competitors and harmed competition through a set of interrelated policies and practices: a. Qualcomm withholds its baseband processors unless a customer accepts a license to standard-essential patents on terms preferred by Qualcomm, including elevated royalties that the customer must pay when using competitors' processors ("no license-no chips").

⁶⁶⁵ KFTC Decision "when licensing its CDMA technology to mobile handset makers, entering into contracts that allowed Qualcomm to get 50% of the patent royalties for its technology" at 1; FTC Complaint "Many OEMs regard Qualcomm's royalty rates as non FRAND and absent Qualcomm's "no license-no chips" policy, OEM's would have the ability and incentive to challenge Qualcomm's royalty demands in court. ... Qualcomm's royalties are disproportionately high relative to the value contributed by its patents, and often are several times higher than royalties of other SEP licensors that have made similar technical contributions." at 17

rebates and predatory pricing which harms other chipset vendors, rather than a complaint about unreasonable royalty rates charged to technology manufacturers.⁶⁶⁶

While it may be that such actions could be justified by a general desire of competition authorities to avoid patent holdup and reduce prices for consumers, this desire should not prevent them from considering the true value that intellectual properties provide to a technological product and should certainly not allow them to pressure intellectual property owners from charging royalties which reflect that value. To do otherwise would be the equivalent enforcing maximum wage restrictions on inventors, which force them to accept wages which are a fraction of the value that their work contributes to the economy. Something which would not be tolerated in relations to a competition authorities' decision with respect to any other workers. Particularly if it was only one other group of workers, for example: marketing managers, which were singled out to be the targets of such restrictions.

The fact the three of the four competition authorities have taken action and two have ordered substantial fines because local technology manufacturers desire lower royalty rates, not only demonstrates the downward pressure that competition authorities have on existing contract, but also confirms the proposition that lower royalty rates in other licenses put downward pressure on royalty rates derived from "hypothetical negotiations". What it does not demonstrate is an equitable analysis of how reasonable royalties should be calculated.

Downward Spiral of Non-Discriminatory Licensing

When intellectual property owners commit to licensing their properties on fair, reasonable and non-discriminatory terms (FRAND) terms, the initial focus is always on the fair and reasonable part of that commitment. However, as time progresses it is the second part of the commitment which can and does force owners to license their properties at rates which can be substantially below anything which can be considered reasonable. This because too often the non-discriminatory commitment is presumed to be violated whenever intellectual property owners make offers which are above the lowest rate they previously offered. This can lead to a circular reduction in both negotiated and ordered royalty rates.⁶⁶⁷

A good example of how this downward spiral occurs is contained in the previously mentioned case of *Ericsson v Micromax*.⁶⁶⁸ In that case the Judge reduced the royalty rates to be paid under an intern order by approximate 50%, after reviewing Eriksson's other licensing agreements. While those agreements are confidential, given Ericsson's FRAND commitments, it is difficult to imagine that those other contracts did not include licenses which indicated royalty rates equal to Ericsson's offer rate. The fact that nowhere in the ruling does the judge state that Ericsson's offer rate was higher than those provided in other licenses, would appear to confirm this proposition. This means that in order for the judge to reduce the rate he must have been basing it on lower (if not the lowest) rates included in any of those other licenses.

⁶⁶⁶ http://europa.eu/rapid/press-release_IP-15-6271_en.htm

⁶⁶⁷ Taylor, *Using Reasonable Royalties* (2014) "Parties negotiate royalties in view of potential reasonable royalties, they assess negotiated royalties based on expected reasonable royalties. But, likewise, courts determine appropriate royalties in the shadow of negotiated royalties. This circularity, left unchecked, may devalue reasonable royalties given the risks associated with liability, relief, and enforcement." at 141.

⁶⁶⁸ CS (OS) No. 442/2013 Ericsson against Micromax

An even better example of this phenomena can be found in the recent case of *Core Wireless v. LG Electronics*.⁶⁶⁹ Like Unwired Planet, Core Wireless holds a mobile telecommunications patent portfolio which were in this instance acquired from a major patent owner (Nokia) and were previously part of Nokia's patent portfolio. The portfolio was then assigned to Conversant Intellectual Property Management, a specialised patent licensing entity, for licensing purposes. As part of their licensing efforts Conversant approached LG Electronic seeking to conclude a license with them. When these negotiations were not successful the dispute went to court. In their ruling which ordered enhanced infringement damages against LG the district court noted that:

' After a long series of meetings between the parties, including seven meetings in Seoul, Korea, LG invited Core Wireless representatives to Korea one last time and indicated that it would be making a monetary offer for a license. Rather than make an offer or engage in serious, good faith negotiations, LG delivered a terse one-page presentation stating that a lawsuit was "preferable" to a license, and that LG would prefer to wait until another major cell phone manufacturer licensed the portfolio, at which point LG intended to be "a follower" in the established royalty scheme.'⁶⁷⁰

Given this observation, the one-page presentation is quite literally a declaration that LG would be relying on a downward spiral to reduce its licensing rates, as well providing further proof of the benefits of using legal attrition to reduce rates.⁶⁷¹

Low Cost External Licensing Comparisons

While it can be presumed that a hypothetical licensing method would use information from all comparable external licenses to determine a reasonable royalty rate, there is evidence to show that this is often not the case. That rather than looking at all available license some courts simply focus on the lowest rates provide by competitors.

An excellent example of this is contained in the previously mentioned case of *Unwired Planet v Huawei*.⁶⁷² In that case, the judge first explained how he decided what benchmark rates should be set for a UK license from Unwired Planet to Huawei. As part of that explanation he referred to comparable licenses which could be considered as representative of rates in the industry. For the most part this external comparable license analysis focused on the royalty rate charged by Ericsson, as much of Unwired Planet's patent portfolio had been purchased from Ericsson. What is not mentioned in this analysis; is that because of the downward spiral from non-discriminatory licensing Ericsson had one of the lowest rates in the industry. Further that the reason why Ericsson sold patents to Unwired Planet was because they were hoping the Unwired Planet would be able to realise their true value, which under the Master Sale Agreement would provide Ericsson with higher rewards than they could achieve themselves.

⁶⁶⁹ *Core Wireless v. LG Electronics*, 2:14-cv-912, Dkt. 47 (E.D. Tex. Nov. 2, 2016).

⁶⁷⁰ *Id.*

⁶⁷¹ Epstein and Noroozi, *Threaten to Dismantle FRAND*, 2017 "In other words, LG appears to have pursued a path of "patent holdout" and "efficient infringement." And while Core Wireless ultimately prevailed in litigation, it was forced to expend nearly \$8 million in legal fees and expert fees, and incur many years of delay, in order to obtain an award of \$2.736 million." at 36

⁶⁷² Case No: HP 2014-00005 Unwired Planet Ltd. and Huawei Technologies Ltd.

Of course, there is no reason why Ericsson's licenses should not have been part of the group of comparable licences, but equity dictates that should not have been the only ones. For a true representation of comparable licenses, licenses with higher royalty rates should have also been examined. What is particularly egregious about this analysis is that the judge did recognise that there were licenses with higher royalty rates but refused to consider them.

'The only other licenses worth mentioning at all are by Qualcomm. The rates are much higher [...]. I will not place weight on the absolute levels of Qualcomm's rates in assessing the level of a benchmark rate.'⁶⁷³

Even more remarkable than this unexplained unwillingness to consider licenses with higher royalties, was the judge's decision to arbitrarily lower the benchmark rate of a global license as it related to China.

'The appropriate rate for China is not complicated to arrive at. The comparable licenses show that rates are often lower in China than for the rest of the world. The relative factors varies, I find that a FRAND license would use a factor of 50%.'⁶⁷⁴

What such an arbitrary decision implies is that the actual value provided by the intellectual property owned by Unwired Planet is of no consequence, and the only thing which needs to be considered is the lowest rates included in external comparable licenses. For if the value provided was truly considered, there is no way that that value would be cut in half so arbitrarily.

To further the point about how external comparable lower rates, it should be noted that the royalties set in this case will now become one of the external comparables which may be used to decide future cases, like the unresolved *Unwired Planet v Micromax* case in India.

9.3 The Path Forward

Just as with the path backwards, the path forwards will be split into two parts, with the first part examining legal trend which are consistent with an application of the correlated rights doctrine in terms granting of injunctive relief and the second part examining the trends with respect to calculating reasonable royalties.

9.3.1 Injunctive relief

As mentioned in the path backwards, the *Orange Book* case's determination of when injunctive relief can be considered on the path forward with respect to applying the correlated rights doctrine because; it focuses on the nature of their behaviour rather than the nature of the patent owner. As described above it effectively established what can best be described as a competition law based "implied license" whenever the patent dispute involves correlated essential intellectual properties. Which is not suggest that the *Orange Book* ruling prevents the provision of injunctive relief for correlated essential intellectual properties, but rather that injunctive relief properties can only be provided if it is clearly demonstrated that the infringer is an unwilling licensee. Given the rather unique nature of the "implied license" defence in the *Orange Book Case*, it was inevitable that its implication would eventually be referred to the CJEU

⁶⁷³ *Id.* para. 468

⁶⁷⁴ *Id.* para. 583

for validation,⁶⁷⁵ which is precisely what happened in the case of *Huawei Technologies v. ZTE*.⁶⁷⁶

In that case the Dusseldorf District Court requested a preliminary ruling on five questions, concerning the remedies implied by the *Orange Book* case. The first question asked whether it was an abuse of a dominate position to seek injunctive relief or if an abuse only occurred if the patent owner rejected an "acceptable, unconditional offer" from the infringer. The second and third questions asked for qualitative guidance on how to define an unwilling licensee, more specifically when and what needed to be included in and excluded from an infringer's unconditional offer to be defined as a willing licensee. The fourth question asked what measures the infringer need to take to fulfil their unconditional offer. The final question asked if similar considerations ought to be used for remedies other than injunctive relief. In essence the District Court was asking whether the conditions for an implied license defence provide under the *Orange Book* case were compliant with European Law, and more specifically with European Competition Law as provide in Article 102 of the Treaty on the Functioning of Europe.⁶⁷⁷

Included in the CJEU ruling were number steps which must be considered when deciding whether injunctive relief should be granted. The first of these steps was that the intellectual property owner needed to provide notice to alleged infringer of the existence an alleged infringement. The second step requires that the alleged infringer notify the property owner of their willingness of conclude a license. The third step requires that the property owner to provide the alleged infringer with a specific, written offer which included the amount of royalties that are being requested and how those royalties are calculated. The fourth step requires the alleged infringer to reply to the offer in a timely manner. If the offer is considered by the alleged infringer to be unreasonable and therefore unacceptable, they must promptly provide a counter offer that they consider to be reasonable. According to step five, if the property owner rejects the counter offer, the alleged infringer must provide appropriate security to cover the eventual payment for its alleged past and ongoing infringement of the intellectual property in dispute. The final step outlined by the CJEU was a suggestion that the litigants by common agreement could request that the amount of royalties to be paid could be determined by an independent third party.

To the extent that the CJEU had to detail these rather common-sense steps, indicates just how divorced from normal commercial practices licensing negotiations have become and why a move forward on the path to correlated intellectual property rights is needed. This issue of returning to "recognised commercial practices in the field and good faith" being acknowledged by the Opinion of the Advocated General.⁶⁷⁸

In normal commercial practices an owner of a non-essential intellectual property would make an offer to license their property to a potential user. If the potential user wanted to use the property but thought that the offer rate was too high they would make a counter offer, and negotiations would commence towards a final negotiated price. If those negotiations resulted in an agreement a license would be concluded, and the potential user would commence the use

⁶⁷⁵ Another issue having to do with the *Orange Book* case, which involved a prohibition of including validity conditionality in their unconditional offer was rejected earlier by the EU Competition Commission under a complaint filed by Samsung against Motorola; European Commission, Summary Decision of 29 April 2014, Case AT 39985 – Motorola, OJ 344/6, 2 December 2014.

⁶⁷⁶ Cases-170/13, Huawei Technologies Co. Ltd v. ZTE Corp., ZTE Deutschland GMBH, Decided 16 July 2015.

⁶⁷⁷ These questions are described and examined in more detail in Chapter 11

⁶⁷⁸ Opinion of AG Wathelet, Case No C-170/13, 20 November 2014, para 81

of the property under the terms of that license. If the negotiation failed the potential user would simply not use the property.

While it must be accepted that the commercial practices for correlated essential intellectual properties are inherently different from those for correlated discretionary properties, the general parameters of this methodology should still be followed in order for markets to function efficiently. Obviously, the main difference between these two types of properties is the essential nature of the properties, with means that users may have to infringe the properties before a license is agreed. That said, once technology manufacturers recognise that they must use a correlated essential intellectual property to produce a technological product, they should immediately notify the owner of their use, and ask for license negotiations in order to legitimise that use. Failing this notification, when a patent owner identifies that a technology manufacturer is using their patents they should immediately notify the alleged infringer of their suspected use and request notification from the alleged user that they are willing to enter into license negotiations.

Once the notification of use and a willingness to enter into negotiations has been received, the owner should then be obligated to make a binding offer to license the property on terms and condition, which they feel are reasonable. If the infringer considers that some terms are unacceptable or the royalties requested are too high, they should (in a timely manner) make a binding counteroffer which specifies acceptable terms and the royalty rate which they are prepared to pay. Only by the provision of a binding offer and counteroffer can there be any reasonable expectation that good faith negotiations to occur. If those negotiations are successful, a license will be agreed and there will be no need for judicial involvement. Only if those negotiations are unsuccessful would the parties need to utilise the judicial system to resolve their dispute.

As far as infringement relief was concerned, this would only be available if the alleged infringer was unwilling to engage in good faith negotiations. This would be indicated by either; a failure to respond to an owner's notification of an alleged infringement with an offer to engage in negotiations, or a failure to make a binding counteroffer on a timely basis after a willingness to negotiate has been provided and the property owners makes an initial offer. This means the primary use of the judicial system would be to resolve the differences between two willing parties as to the level of royalties which are appropriate for the use to the disputed property. Some excellent examples of how this would work can be found in German case law that followed the *Orange Book* case.

In *St Lawrence Communications v. Deutsche Telekom*⁶⁷⁹ the Mannheim district court held that St Lawrence was entitled to injunctive relief against Deutsche Telekom based on the infringement of one of its patents citing a prerequisite for avoiding injunctive being that infringer is objectively ready, willing and able to conclude a license agreement. The appeals court in Karlsruhe disagreed with the court in Mannheim and suspended enforcement of injunctive relief pending appeal.⁶⁸⁰ On 27th of November when the case return to the District Court, it once again granted the injunction, finding that both Deutsche Telekom and HTC (the technology

⁶⁷⁹ Mannheim District Court, 2 O 103/14, Decision of 10 March 2015 - St Lawrence Communication v. Deutsche Telekom

⁶⁸⁰ Karlsruhe Court of Appeal, 6 U 44/15, 23 April 2015 - St Lawrence Communication v. Deutsche Telekom

manufacturer which supplied the infringing device) had sufficient time to respond to the notification of alleged infringement and had not responded in a timely manner.⁶⁸¹

In a series of case involving *Sisvel v. Haier*⁶⁸² the district court granted an injunction against the Haier group, enjoining them from selling UMTS- and GPRS-compliant smartphones and tablets in Germany which infringed Sisvel's patents. In this case the plaintiff informed the defendants of their alleged infringement and made several licensing offers to them. The defendants rejected these offers on the basis that the offers included unreasonable royalties and constituted a global licensing offer, rather than a German specific license. This defence was not accepted as the defendant failed to make a counteroffer.

In *NTT DoCoMo v. HTC*⁶⁸³ a district court granted injunctive relief even though HTC did make a counteroffer to NTT DoCoMo's offer. This because the counteroffer was made eighteen months after the initial offer and there were no security arrangements made with respect to the counter offer.

In *St Lawrence Communications v. Vodafone*⁶⁸⁴ the district court granted a preliminary injunction against Vodafone which was selling infringing phones it sourced from HTC under both the HTC and its own label. Again, while the defendant claimed that the licensing offer made by plaintiff was unreasonable, the injunction was granted because there was no counteroffer or security provided with respect to a counteroffer. An appeals court upheld the injunctive order for the same reason.⁶⁸⁵

Such a standard methodology is of course not far from the *Orange Book* decision and what the CJEU decided in the *Huawei v. ZTE* case.⁶⁸⁶ The main differences between the them being that the *Orange Book* and *Huawei* decision placed the burden of identification and notification on the intellectual property owner rather than the technology manufacturer⁶⁸⁷ and changed the security requirements used to ensure that obligations to pay for the use of the intellectual property are eventually fulfilled. Under a standard methodology no security would be provided. Under the *Orange Book* case the intellectual property owner was the one which initially established the level of security which needed to be provided. In *Huawei v. ZTE* if the level of security cannot be agreed between parties, they "may" be decided by an independent third party.⁶⁸⁸

This would appear to be an equitable adaptation of a standard methodology, as the first negatively impacts the intellectual property owner and the second negatively impacts the alleged infringer. However, placing the burden of identifying an infringement on the property

⁶⁸¹ Mannheim District Court, 27 November 2015, 2 O 106/14, 2 O 107/14, 2 O 108/14, *St Lawrence Communication v. Deutsche Telekom*

⁶⁸² Düsseldorf District Court, Decisions of 3 November 2015 – 4a O 144/14 und 4a O 93/14 - *Sisvel v. Haier*;

Düsseldorf Court of Appeal, Decisions of 13 January 2016 – 15 U 65/15 und 15 U 66/15 – *Sisvel v. Haier*

⁶⁸³ Mannheim District Court, 29 January 2016, 7 O 66/15 - *NTT DoCoMo v. HTC*

⁶⁸⁴ Düsseldorf District Court, 31 March 2016, 4a O 73/14 - *St. Lawrence Communication v. Vodafone*

⁶⁸⁵ Düsseldorf Court of Appeal, 9 May 2016, I-15 U35/16, 15 U35/16 – *St Lawrence Communication v. Vodafone*

⁶⁸⁶ *Huawei v. ZTE* is described in greater detail in Chapter 11

⁶⁸⁷ Maume, Philipp, *Huawei./ ZTE, or, how the CJEU closed the Orange Book*. 207-226. (*QUEEN MARY JOURNAL OF INTELLECTUAL PROPERTY* 6, no. 2, 2016): The CJEU's arguments have a different trajectory than the FCJ in the *Orange Book* Standard decision. ... This shift in perspective is reflected in the new negotiation procedure. It is the proprietor who needs to make the first move by notifying the alleged infringer." at p 223;

⁶⁸⁸ Killick, James, and Stratigoulia Sakellariou, *Huawei v ZTE: No More Need to Look at the Orange Book in SEP Disputes*." (*Antitrust Chronicle* 10 (2015)). "The ECJ also added that if no agreement is reached after this round of offer and counter-offer, the parties "may, by common agreement, request that the amount of the royalty be determined by an independent third party, by decision without delay."" at p 7

owner should not mean the alleged infringers are free to deny an infringement. If anything, when an intellectual property owner notifies a technology manufacturer of an alleged infringement and that technology manufacturer denies that they are infringing all of the owner's patent portfolio, this can and should be used as evidence as to the unreasonable behaviour of the technology manufacturer. The same can be said with respect to the security demands of the owner. If the owner request security which is clearly in excess of a reasonable royalty rate, this should be used as evidence as to the unreasonable behaviour of the intellectual property owner.

Regardless of whether an *Orange Book* or the *Huawei* methodology is followed; their requirements are definitely a forward step on the path towards an application of the correlated rights doctrine. This because neither provide the owner with an option to seek injunctive relief from a willing licensee who makes a binding reasonable offer to license the disputed property.

Finally, the fact that competition law was used as the justification for making the *Huawei v. ZTE* decision does not diminish the argument in favour of applying the correlated rights doctrine in intellectual property law. This because competition law by its very nature seeks to correct market failures which are not otherwise corrected in other bodies of law, and it does not need to be applied when market failures are otherwise proscribed in those other bodies of law. So, if an application of the correlated rights doctrine effectively incorporates competition law principles in intellectual property law, the application of competition law becomes redundant.

While this may make the application of actual competition law statutes redundant, this should not be considered a negative outcome as it will simplify the adjudication of intellectual property disputes. An added benefit of establishing a correlated rights standard licensing procedure as part of intellectual property law, is that it will forestall the encroachment of competition law authorities into royalty setting activities. This is a benefit because; as history has shown command or directed economies in which the government sets the price of goods are never efficient or sustainable, regardless of whether the intent is benevolent or otherwise.⁶⁸⁹ From a more pragmatic prospective it limits the ability of competition authorities to drive down royalty rates for their local technology manufacturers and it will also allow those same authorities focus on the traditional anti-competitive behaviours like those initiated by the EU Competition Authority against Qualcomm.⁶⁹⁰

9.3.2 Calculating Reasonable Royalties

If neither; hypothetical negotiations based on existing licenses,⁶⁹¹ nor relying on competition authorities to establish government mandated royalty rates, represents a step forward on the correlated rights path, the question then becomes what method should be used. Obviously to be compatible with an application of the correlated rights doctrine they ought to reflect the methods which are used in Californian ground water law and U.S. Oil and gas law. In both those bodies of law the courts first try to ascertain the aggregate value or capacity of the given resource and then divide that aggregate according to the proportional ownership of the litigants. As such; under an application of the correlated rights doctrine calculating royalties would commence with an evaluation of the aggregate value which all of the correlated properties

⁶⁸⁹ See Chapter 14: The Property Continuum: Directed Property Stage

⁶⁹⁰ As discussed above in the Path Backwards

⁶⁹¹ Risch, *(Un) Reasonable Royalties*, (2016) "The hypothetical negotiation twists the more economically relevant question: what is the reasonable value of the invention."

provide to technological product, and then that value would be apportioned to the all of the owners who contributed to that technology, on a proportional basis to the value of their contribution. This can be described as a holistic apportionment approach.

While it is conceded that this approach is contradictory to certain scholarly articles which suggest that royalties should be based on the minimum level of return need to justify investment in research in development.⁶⁹² And other scholarly articles which suggest that royalties ought to be based solely upon the difference in value that an intellectual property provides over the next best intellectual property.⁶⁹³ This does not mean that it is not compatible with the other rules which have been used to calculate royalties or a methodology which has not been used in the courts. The methods for calculating royalty which are most compatible with holistic apportionment being the lost profits rule, the entire market value rule and the smallest saleable component rule.

As described in chapter three the lost profits rule covered situations where it was possible to ascertain specific level of the profits which were lost when an infringement occurred.⁶⁹⁴ The principle idea behind this rule was that the owner should be made whole for the profits which he lost because of the infringement. It makes sense that the holistic apportionment approach is compatible with the lost profits rule, because at their core both are value-based methodologies. To put this value base methodology into context, it is useful to begin by assuming that when one entity owns all of the intellectual property incorporated into a technological product and that entity will sell its product at the profit maximising price. In such a case the difference between its manufacturing and operating cost and that profit maximising price will determine its profits. To the extent that an infringer uses those intellectual properties to supply a technological product which would otherwise be supplied by the owner, the lost profits would be the same as what the owner would have earned on those sales. Interestingly those lost profits would theoretically be higher than the value which can be attributed to the intellectual properties practiced by the technological product, because they would also include the normal profits which can be attributed to the normal business operations.

This compatibility also exists if it is assuming that an intellectual property owner hires a contract manufacturer, to manufacture the product on their behalf. The only difference is that the normal manufacturing profits are earned by the contract manufacturer rather than the property owner.

Taking it one step further, it should also work if the intellectual property owner is a non-practicing entity and licenses its intellectual property out to technology manufacturers which manufactures and sells properties under their own brand name. In that instance the price that the technological company will charge for the technological product will reflect the royalty payments made to the owner who will base their royalty rates on a similar profit maximising strategy.

⁶⁹² See e.g.: Mark A. Lemley, *Property Intellectual Property and Free Riding*, Lemley, Mark A., *Property, Intellectual Property, and Free Riding*. (Texas Law Review, Vol. 83, p. 1031, 2005). "Economic theory offers no justification for awarding creators anything beyond what is necessary to recover their average total cost. In a market economy, we care only that producers make enough return to cover their costs" at 1035;

⁶⁹³ Lemley and Shapiro, *A Simple Approach*, 2013 "The key idea here is that a reasonable royalty should reflect what would happen as a result of well-informed ex-ante technology competition. *The incremental value of the patented technology over and above the next best alternative serves as an upper bound to reasonable royalties*" [italics added] at 1148

⁶⁹⁴ Page 34

Where the lost profit approach will not be consistent with a holistic apportionment approach, is if it is based on the actual profits of the infringer or if it is presumed that the property owner must license its properties at a royalty rate which is below the rate which would maximise its profits. It is not compatible when it is based on the profits of the infringer, as infringers seldom price technological products at a price which reflects the full value of the intellectual property they are infringing, and usually sell at a steep discount in order to increase sales. Perversely when this happens, the entire industry will respond to the availability of lower prices from an infringer by demanding lower prices for the owner's own products, which will reduce the owner's profits. So, if the infringement is allowed to continue for longer durations, it will also mean that a profits loss rule, will not adequately compensate the owner even when it is based on when their own profits.

Next, the holistic apportionment approach can be considered reasonably compatible with the entire market value rule because both rely on apportionment of the value that an intellectual property provides to an infringer. The entire market value rule using as its royalty base, all value which an infringer derives from infringing an intellectual property,⁶⁹⁵ while the holistic apportionments' royalty base is limited to the inherent value which the intellectual property provided to the technological product.

Even though the smallest saleable component rule, has to a large extent supplanted the entire market value rule, the holistic apportionment approach is also compatible with it because it too apportions value, albeit on an even smaller royalty base. This rule being established in *Cornell Univ. v. Hewlett-Packard*, when Chief Judge Randall Rader referred to the smallest saleable unit.⁶⁹⁶ A concept which was more clearly articulated in *Dynamics v. Quanta Computer, Inc.*⁶⁹⁷ Whereby the U.S. Court of Appeal for the Federal Circuit tried to clarify the boundaries of the entire market rule and focused on the actual value their property provided to the smallest component of the integrated technological product.⁶⁹⁸ The court stating that;

'Where small elements of multi-component products are accused of infringement, calculating a royalty on the entire product carries a considerable risk that the patentee will be improperly compensated for non-infringing components of that product. Thus, it is generally required that royalties be based not on the entire product, but instead

⁶⁹⁵ *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1995 U.S. App. LEXIS 14681, 35 U.S.P.Q.2D (BNA) 1065 (Fed. Cir. June 15, 1995)

⁶⁹⁶ *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, (N.D.N.Y. 2009). 'The logical and readily available alternative was the smallest salable infringing unit with close relation to the claimed invention' at 288

⁶⁹⁷ *Laserdynamics v. Quanta Computer, Inc.* 694 F.3d 51 (2012)

⁶⁹⁸ This ruling rejected the notion that the essential nature of the patent could be relied upon to activate an entire market rule valuation. In this the court said; *Id.* 'It is not enough to merely show that the disc discrimination method is viewed as valuable, important, or even essential to the use of the laptop computer. Nor is it enough to show that a laptop computer without an ODD practicing the disc discrimination method would be commercially unviable. Were this sufficient, a plethora of features of a laptop computer could be deemed to drive demand for the entire product. To name a few, a high resolution screen, responsive keyboard, fast wireless network receiver, and extended-life battery are all in a sense important or essential features to a laptop computer; take away one of these features and consumers are unlikely to select such a laptop computer in the marketplace. But proof that consumers would not want a laptop computer without such features is not tantamount to proof that any one of those features alone drives the market for laptop computers' at 26

on the “smallest saleable patent-practicing unit.” citing *Cornell Univ. v. Hewlett Packard Co.*, 609 F. Supp. 2d 279, 283, 287-88 (N.D.N.Y. 2009).⁶⁹⁹

While it may appear that the smaller royalty base would make the smallest saleable component rule incompatible with a holistic apportionment, it does not. This because the two rules are not mutually exclusive and can be used concurrently. This concurrent application should be used when a technological product includes; components which can be readily separated from the overall technological product and others which cannot be separated. An example of how this concurrent application can be used to calculate reasonable royalty can be found in public information regarding Qualcomm's agreement with the Chinese competition authorities.⁷⁰⁰ According to that information Qualcomm agreed to calculate its 'patent royalties on the basis of 65% of net wholesale price of the device sold in China'.⁷⁰¹ Presumably this recalculation was designed to specifically avoid the royalty payments on components which were integrated into the devices, but which could be bought with intellectual property licenses already paid.⁷⁰²

It should be noted that the net effect of separating out the individual components from the technological product, should make little difference in the total amount of royalties paid for use of the intellectual property incorporated into the technological product. This because it would be assumed that a similar aggregate royalty would be paid on the components as would be paid on the technological product, keeping the total aggregate payments the same. The only difference would be the that apportionment of the aggregates would be done separately. It should also make no difference to the amount of royalties being paid to individual intellectual property contributors, as a reduction in the royalty base would be accompanied by a reduction in the number of intellectual properties which those lower aggregate royalty payments would be shared between. Which is to suggest that in the case of the Qualcomm agreement, a 35% reduction in the royalty base, should have resulted in a 35% increase in Qualcomm's proportional contribution to the intellectual properties incorporated in that smaller base, and therefore they would be entitled to a 35% higher royalty. Likewise, for intellectual property owners which contribute properties to the smaller components, although the royalty base is much smaller their proportionate claim on that base becomes much larger, which should result in a similar rate to what would result from a smaller proportionate claim on a larger base.

Where the entire product value rule may be described as inconsistent with a holistic apportionment approach is when the rule is framed as a method for denying holistic apportionment. This has happened when it is impossible show that the intellectual property is a "motivating factor" for the purchase of the technological product.⁷⁰³ The problem with this

⁶⁹⁹ *Id.* at 22-23

⁷⁰⁰ Peter Corne, *NDRC's Qualcomm Decision Sends Mixed Messages* (Dorsey Publication, Mar. 13, 2015)

⁷⁰¹ *Id.*

⁷⁰² As the agreement was secret this is only a presumption it may just be that the Chinese authorities forced Qualcomm to accept this reduction as the price to pay for being allowed into the Chinese market.

⁷⁰³ *LaserDynamics v. Quanta Computing* Case No. 06-CV-0348 "When it can be shown that the patented feature drives demand for an entire multi-component product, a patentee may be awarded damages as a percentage of revenues or profits attributable to the entire product. ... In other words, the entire market value rule allows for recovery of damages based on the value of an entire apparatus containing several features, when the feature patented constitutes the basis for customer demand. ... In effect the entire market rule acts as a check to ensure that the royalty damages being sought under 35 U.S.C. § 283 are "reasonable" in light of the technology at issue." at 26-27

application of the rule and why it is inconsistent with a holistic apportionment approach; is that most technological products practice multiple patents, and no single intellectual property can be described as providing a clear motivating factor for the purchase of the product. This is particularly true with respect to standardised technological products which rely on literally thousands of intellectual properties to function, none of which are known to the public. In such circumstances because reasonable royalties cannot be calculated using either the entire product value rule, or the smallest saleable component rule, it is unlikely that the royalties will reflect the value that the contribute to the technological product. However: because this prerequisite for a motivating factor can be considered as some sort of methodological choice, separate from the rule itself; it can be argued that there the while rule remains consistent with a holistic approach, the method of applying it is not.

As mentioned earlier a holistic apportionment approach starts with an evaluation of the aggregate value which all of the correlated properties provide to technological product, and then that value would be apportioned to the all of the owners who contributed to that technology on a proportional basis to the value of their contribution.

The first step in this process would be to determine if the intellectual properties in dispute are practiced solely by a component of the technological product or whether they are integral to the entire product. Obviously, if they are only required for a component, the analysis will focus on a calculation of reasonable royalty for the component but if they are integral to the entire product those calculation will be for the entire product.

While the evaluation of the aggregate value which all the correlated intellectual properties provide to component or entire product may be "hypothetic", it does not have to be "speculative", particularly if the analysis is transparent. All that is required is an economic analysis of the demand curves for the component or product. When this analysis is provided it will result in competing calculations as to the profit maximising level of aggregate royalties at least one provided by the property owner and another provided by the technology manufacturer. Ideally the court would also receive amicus briefs from other interested parties which would provide their economic analysis of the same aggregate royalty level.

This aggregated value calculation can be considered analogist to the calculations related to the aggregate amount of water which flows into an underground aquifer in a given year, or the value of the oil and gas which is extracted from an oil and gas reservoir over a given period. From a strictly intellectual property prospective it would be similar to the value calculations which are taken in pharmaceutical pricing which focus on the profit maximising potential of the proprietary innovations of patented medicine.

In circumstances where the intellectual property owner has made a FRAND commitment which allowed their property to be included in a standard, all parties would then provide analysis on how that profit maximizing rate should be adjusted to reflect an aggregate reasonable royalty rate for the standardized technological product. This step is necessary when a FRAND commitment is made because the standardization process effectively eliminates competition from the market and as such the demand curve for the technological product will be higher than would be in a more competitive market.

While it could be expected that the level of the aggregate reasonable royalty rate would vary dramatically between the owners and technology manufacturer, this is not the most likely outcome. It is not the most likely outcome because most intellectual property disputes involve integrated technology manufacturers, which both contribute intellectual properties to the

standard, and manufacturer the technological product. This dual role of both owner and user of intellectual properties, will have a stabilising effect on the analysis which should result in the competing analyses converging on a relatively small difference in the proposed aggregate royalty rate. Example of this stabilising effect has been demonstrated in recent patent disputes. In the recently decided case of *Unwired Planet and Huawei*, although an analysis of the aggregate rate was not sought, the judge was able to calculate that the implied total aggregate royalty burdens of Unwired Planet was 10.8% while Huawei's was 13.3%.⁷⁰⁴ Further it should also be expected that as more and more cases involving a specific technological product are heard, there will be a greater likelihood a consensus may emerge on an even smaller spread in the aggregate royalty range. This consensus will of course make later cases involving the same component or technological product less hypothetical. An added advantage of adopting this analysis would be that at any later stage when an integrated technology manufacturer changed positions and try to alter their analysis, their old analysis could be used as evidence against such a change. The same would be true about any party which provided amicus briefs.

After evidence on the aggregated profit maximising and reasonable royalty rates are provided the case would move over to an analysis of the proportional value contribution of the disputed intellectual properties. The first part of this analysis would require a simple analysis of the number of intellectual properties which were practiced by the component or integral to entire product. The properties integral to the entire product would obviously exclude any properties which related solely to small saleable component. Ideally this information would be provided by the standardization organization.

After this information was provided the litigants would provide their own analysis of the essential properties which were practiced and the disputed properties value share of those essential properties. They would also have to provide arguments to back up the any claims that the disputed properties were of greater or lesser value than the average value provided by those total properties which they deemed essential.

If the dispute involved a small saleable component this would be all the evidence which would be required, and the judge or jury would decide who made the best arguments in terms of aggregate value and the disputed properties proportional share of that value and multiply those two factors together to come up with a reasonable royalty rate for the disputed intellectual properties.

It should be noted that this method of determining how an aggregate value should be apportioned between correlated intellectual properties was used in the recent case of *Unwired Planet and Huawei*. In that case the judge took evidence about the number of aggregate and disputed patents which were practiced, and then had the litigants provide evidence as to what percentage of those patents were valid and essential to the technological product.⁷⁰⁵

If the dispute involved the entire product the same calculations would be made, but there would have to be one further calculation which involved separating out the price of the components and the value of any other non-technical factors from the total price of the technological product before the calculated reasonable royalty rate would be applied to the sales price of the product. The most important non-technical factors which would need to be considered being the premium price that technology manufacturer can charge because of their

⁷⁰⁴ *Unwired Planet and Huawei*, at para. 261

⁷⁰⁵ *Id.* at para. 198-223

brand. The component costs should be used to reduce the base price which that reasonable royalty rate is applied to, because to do otherwise would be to force technology manufacturers to pay a double royalty on those components. The brand premium should be used to reduce the base price which that reasonable royalty rate is applied to because the brand premium provides value which is separate from the value provided by the aggregated intellectual property value.

Returning to the question of the royalty rates found in existing contracts. Once a reasonable royalty is calculated using a holistic apportionment approach, that rate could be compared against the royalty rate included in selected existing contracts. However not all contract should be used for this comparison. For example, any contracts where there is proof that the rate was a product of coercion in terms of; patent holdup, legal attrition, competition authority pressure, or corrupt practices should not be used. Assuming these types of contracts are eliminated it is likely that the existing contract royalty rates will be fairly close to those calculated using a holistic apportionment approach. If they are not the court or jury may want to make some modifications to the calculated rate.

What this path forward seeks to achieve is a situation whereby it is the value that disputed intellectual property contributes to the technological product which determines the reasonable royalty rate. An objective which is supported by several scholars, albeit using different methodologies.⁷⁰⁶ Such a process would not only create greater clarity in terms of reasonable royalties should be calculated, but also improve the equity of the outcomes, as neither patent holdup or patent holdout would be rewarded.

⁷⁰⁶ See for example: David O. Taylor, *Using Reasonable Royalties to Value Patented Technology*, (Georgia Law Review, 2014); Gomez-Arostegui, Tomas, Prospective Compensation in Lieu of a Final Injunction in Patent and Copyright Cases. *Fordham Law Review*, Vol. 78, p. 1661, 2009-2010;

10. Correlated Rights and Existing Legislation

As implied by the name, the purpose of this chapter is to analyse the correlated rights doctrines compatibility with existing legislation, much as would occur during a *de novo* review. From a conceptual point of view this would be equivalent of assessing whether the ground is suitable for a new foundation. Obviously if the current legislation would not allow an application of the correlated rights doctrine; it would mean that legislation would have to change before it could be applied. Alternatively, if the current legislation did not prohibit the application of the doctrine; then its application would only be dependent on the courts willingness to reinterpret that legislation.

By its very nature this analysis is much different from analysing the doctrine's compatibility with the current interpretation of legislation. This because by definition the advocacy of a new foundation, would suggest that the current interpretation of the legislation have, or at least may have, resulted in laws which are different to those which would be provided under a new legal doctrine. Which is not to suggest the evolution of the current interpretations of intellectual property legislation are not compatible with the application of the doctrine, or that it is not capable of providing similar outcomes, merely that such similar outcomes have occurred through different means. Moreover, if it is the case that current restrictions placed on the exclusive/absolute right foundations of intellectual property law have resulted in outcomes which are similar to those which would result for an application of the correlated rights doctrine, then it could be asserted that the correlated rights doctrine was “extracted” from those interpretation.

As to the analysis itself, this will be done by examining the respective legislations according to critical questions raised in Chapter 8. All of which seek to determine the discretion that the respective judicial authorities have in deciding intellectual property cases. Those questions are:

- 1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?
- 2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?
- 3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

Assuming that all of these questions can be answered in the affirmative then the relevant legislation would clearly be capable of applying the correlated rights doctrine. Further it would not be unreasonable to imply that legislative authorization of such flexibility, was and is intended to provide the courts with sufficient discretion to thwart the abuses of rights or legal process by the litigants. An intent which mirrors the intent of the correlated rights doctrine.

This analysis of the compatibility of the correlative rights doctrine to legislation, will commence with an analysis of the Paris Convention, the TRIPs Agreement, and EU Enforcement Directive, before moving on to National legislation from various jurisdictions. This decision to begin with broader international Treaties is deliberate, as generally speaking National legislation must comply with international treaty obligations, and EU Member States can run the risk of State liability if they do not protect rights provided under EU directives. It follows that; if the international treaties were not compatible with the correlated rights doctrine, the analysis of National legislations would represent a somewhat futile exercise.

Each analysis will open with a brief description of the legislation, which will be followed by a commentary on the relevant articles and their compatibility with the correlated rights doctrine. This will be followed by a practical assessment of level of discretion the respective legislations provide in the three questions listed above. Also included will as well as a limited assessment as to whether current interpretation of the relevant legislation conforms to this practical assessment.

10.1 The Paris Convention

Prior to the establishment of the Paris Convention⁷⁰⁷ many countries treated industrial property owned by foreigners differently than those owned by their own citizens. The Paris Convention changed this by establishing equal protection of industrial property regardless of jurisdiction from which the property owners originated.⁷⁰⁸ It is called the Paris Convention because it was initiated at a conference in Paris that began in 1880 and was signed there in 1883. It has been revised and amended seven times the most recent of which occurred on the 28 of September 1979. It is still in force and is administered by the World Intellectual Property Organization (WIPO). As of September 2014, there were 176 countries who were signatures.

Obviously as every signature is obligated to adhere to the Convention, any assessment of the legal viability of applying the correlated rights doctrine must also include an assessment of the doctrine's compatibility with it. Although the Paris Convention includes thirty Articles there are only a few which are relevant to the application of the correlated rights doctrine.

Commentary on Relevant Articles

⁷⁰⁷ Paris Convention for the Protection of Industrial Property of March 20, 1883, as revised at Brussels on December 14, 1900, at Washington on June 2, 1911, at The Hague on November 6, 1925, at London on June 2, 1934, at Lisbon on October 31, 1958, and at Stockholm on July 14, 1967, and as amended on September 28, 1979

⁷⁰⁸ G. H. C. Bodenhausen, *Guide to the Application of the Paris Convention of the Protection of Intellectual Property*, United International Bureaux for the Protection of Intellectual Property (1969) 'This is called the principle of "national treatment," or "assimilation with nationals," a principle which means that, in the field of industrial property as defined by the Convention, each member State must apply to nationals of other member States (and those assimilated to such nationals by Article 3) the same treatment as it gives to its own nationals, without being allowed to require reciprocity. The idea of the Convention is that such reciprocity is sufficiently assured by the obligations involved in adherence to the Convention.' at 12

Article 2: National Treatment for Nationals of Countries of the Union

(1) Nationals of any country of the Union shall, as regards the protection of industrial property, enjoy in all the other countries of the Union the advantages that their respective laws now grant, or may hereafter grant, to nationals; all without prejudice to the rights specially provided for by this Convention. Consequently, they shall have the same protection as the latter, and the same legal remedy against any infringement of their rights, provided that the conditions and formalities imposed upon nationals are complied with.⁷⁰⁹

The clear intent of Article 2 is to establish the principle that in each signature's judicial authorities are required to provide the same intellectual property rights and remedies to all intellectual property owners regardless of the nationality of the owner. However, this Article does not say anything the specifics of those rights. As such as long as the correlated rights doctrine is applied equally to both foreign and domestic owners of intellectual property signatories to the Convention would be in compliance with this Article.

Article 5: A. Patents: Importation of Articles; Failure to Work or Insufficient Working; Compulsory Licenses

(1) Importation by the patentee into the country where the patent has been granted of articles manufactured in any of the countries of the Union shall not entail forfeiture of the patent.

(2) Each country of the Union shall have the right to take legislative measures providing for the grant of compulsory licenses to prevent the abuses which might result from the exercise of the exclusive rights conferred by the patent, for example, failure to work.

(3) Forfeiture of the patent shall not be provided for except in cases where the grant of compulsory licenses would not have been sufficient to prevent the said abuses. No proceedings for the forfeiture or revocation of a patent may be instituted before the expiration of two years from the grant of the first compulsory license.

(4) A compulsory license may not be applied for on the ground of failure to work or insufficient working before the expiration of a period of four years from the date of filing of the patent application or three years from the date of the grant of the patent, whichever period expires last; it shall be refused if the patentee justifies his inaction by legitimate reasons. Such a compulsory license shall be non-exclusive and shall not be transferable, even in the form of the grant of a sub-license, except with that part of the enterprise or goodwill which exploits such license.⁷¹⁰

Article 5 of the Paris Convention represents both a windfall and a challenge to the application of the correlative rights doctrine. It represents a windfall because in paragraph (2) it is specifically stated that "Union shall have the right to take legislative measures providing for the grant of compulsory licenses to prevent the abuses which might result from the exercise of the exclusive rights conferred by the patent". This sentence clearly provides not only the discretion

⁷⁰⁹ Paris Convention. Article 2

⁷¹⁰*Id.* Article 5

but also a recommendation to develop and apply solutions to prevent intellectual property owners from abusing their property rights. As the correlative rights doctrine protects integrated property owners from abuses which can lead to their property being appropriated by others, it obviously meets the objectives of this declaration. The challenge comes from paragraph (4). In that paragraph it is stated that when failure to work or insufficient work is the grounds for the application there should be a three to four-year delay in allowing applications for a compulsory license. The challenge being; does that same delay apply to the withholding of injunctive relief. A strict reading would suggest that it does not, and the delay is only applicable to the granting of a compulsory license. Alternatively, if it is assumed that when judicial authorities withhold injunction relief, it is the legal equivalent of granting a compulsory license to that property, then this Article can be interpreted as obliging courts to provide automatic injunctive relief in during the same three to four-year period. However, because such an interpretation would be inconsistent with the rights provided in paragraph (2), this interpretation would appear to be unsustainable.

Article 28 Disputes

(1) Any dispute between two or more countries of the Union concerning the interpretation or application of this Convention, not settled by negotiation, may, by any one of the countries concerned, be brought before the International Court of Justice by application in conformity with the Statute of the Court, unless the countries concerned agree on some other method of settlement. The country bringing the dispute before the Court shall inform the International Bureau; the International Bureau shall bring the matter to the attention of the other countries of the Union.

(2) Each country may, at the time it signs this Act or deposits its instrument of ratification or accession, declare that it does not consider itself bound by the provisions of paragraph (1). With regard to any dispute between such country and any other country of the Union, the provisions of paragraph (1) shall not apply.

(3) Any country having made a declaration in accordance with the provisions of paragraph (2) may, at any time, withdraw its declaration by notification addressed to the Director General.⁷¹¹

Article 28 provides details on how disputes between countries are to be resolved. These disputes would arise whenever one country claims that another country has treated their nationals in a manner which is contrary to the Convention. While there is every possibility that a country which supports strong intellectual property, rights may object to another country applying the correlated rights doctrine, there is a possibility that a dispute over application will be brought before the International Court of Justice. However just because a dispute is brought, does not mean that the correlated rights doctrine cannot be applied. Indeed, given that there appears to be nothing in the Convention which prevents its application and Article 5: paragraph (2) tends to support its application, it is unlikely that the International Court of Justice would rule against its application.

Answers to Correlated Questions

⁷¹¹ *Id.* Article 28

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

As the Paris Convention does not address the details of sovereign court proceedings it does not directly answer this question. All that can be said is that it does not prohibit such actions as long as the procedures are applied equally to both domestic and foreign intellectual property.

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

This question is not answered it is rendered somewhat redundant by Article 5 which grants signature the right to grant compulsory licenses when they find that owners have been engaging in abusive behaviour. Naturally this would require that both domestic manufactures and foreign importers receive equal treatment.

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

The Paris Convention does not address the details of damages, although it does imply that both domestic and foreign intellectual property owners must be treated the same way when it comes to damages.

Summary of The Paris Convention Compatibility

The primary purpose of the Paris Convention was and is to ensure that domestic and foreign owners of intellectual property are provided received equal treatment under the laws of the signatory countries. It was not intended to provide, nor does it provide, specific details of what those laws should be, and what protection should be provided. This lack of detail is evident in absence of any requirement to provide either injunctive relief or damages when an infringement is found. That said it does include an article which requires that signatures provide their judicial authorities with the discretion to be able to provide compulsory licenses when owners abuse the rights provided under their respective laws. This requirement is a clear indication that the expectation was that rights granted would not be absolute. As the correlative rights doctrine asserts; limiting rights in a manner which ensures that the rights cannot be abused to appropriate the rewards of other owners who have also provide contribution to an integrated technological product, this should not be an issue.

10.2 The TRIPS Agreement

The TRIPS Agreement⁷¹² is Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization (WTO), signed in Marrakesh, Morocco on 15 April 1994. It can be considered to be an extension of the Paris Agreement in that it expanded the requirement for an equal treatment of intellectual property within borders, to a requirement for equal treatment across borders. It did this by setting minimum standards and enforcement procedures that all WTO Members had to abide by when adjudicating intellectual property disputes. However, this was not the primary objective nor the driving force behind its development and adoption. Indeed, the initial impetus was not a governmental action but rather a private action taken by multinational corporations which wanted governments to more vigorously defend their intellectual property against counterfeits and piracy.

As provide in much more detail by Duncan Matthews in his book, *Globalizing Intellectual Property*,⁷¹³ it all began in the 1970's with the formation of the Anti-Counterfeiting Coalition which was an alliance of 100 multi-national corporation attempting to get the national governments to increase their protection against counterfeit trademarked goods. This effort culminated in an 'Agreement on Measures to Discourage the Importation of Counterfeit Goods'⁷¹⁴ which failed to advance in the 1979 Tokyo Round of General GATT because of lack of evidence. This effort was subsequently pursued at the 1982 GATT Ministerial meeting, however the proposal failed to attract sufficient support as developing countries like India and Brazil who questioned the need to involve the WTO in a matter which they felt would be more appropriately handled by the World Intellectual Property Organization, (WIPO). Despite this rejection a Ministerial Declaration was adopted requesting that the Director General of GATT hold consultations with his counterpart at the World Intellectual Property Organization. In 1984 the GATT Council established an Expert Group which eventually presented a report called 'Trade in Counterfeit Goods'⁷¹⁵ to the Council in 1982. In the report the Expert Group concluded that action was needed to combat counterfeiting but was not able to agree on whether GATT was the appropriate vehicle.

At the same time as efforts to adopt an anti-counterfeiting agreement were being pursued at the WTO, similar efforts were also being pursued at the World Intellectual Property Organization (WIPO). Although these efforts did not suffer from criticism over the appropriateness of the forum, they were unsuccessful because developing countries expressed scepticism about the extent of the problem and the potential negative consequence for their economies if stronger intellectual property law were enforced.

To a large extent it was this lack of movement at the WTO and the WIPO that drove US corporations to lobby for unilateral protection from the US government. These lobbying efforts focused on getting the government to use US trade policy to punish countries who they felt were "stealing or pirating" their intellectual property. These efforts were rewarded by the US Congress in 1984, when it passed amendments to Section 301 of the Trade and Tariff Act.⁷¹⁶ That

⁷¹² Agreement on Trade Related Aspects of Intellectual Property, 1869 UNTS 299; 33 ILM 1197 (1994), http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm

⁷¹³ Duncan Matthews, *Globalising Intellectual Property*; TRIPs Agreement, Routledge [2002]

⁷¹⁴ GATT Doc. No. L/4817 (31 July 1979).

⁷¹⁵ GATT Doc. No. L/5758 (18 Oct 1983).

⁷¹⁶ Trade and Tariff Act of 1984, Section 301

amendment had three significant components. First, it gave the US Trade Representatives (USTR) the right to do general investigations of the intellectual property law of foreign countries. Second, allowed for the imposition of trade sanctions if investigations found that countries had failed to intellectual property rights. And third, it established effective intellectual property rights protections as a prerequisite for maintaining tariff privileges for developing countries imports. The first country to feel the effects of this change was the Republic of Korea, who under threat of trade sanction changed their intellectual property law after a complaint from USTR, which they in turn had received from the Motion Pictures Association. Shortly thereafter action was taken against Brazil.

These unilateral actions quickly changed the minds of the developing countries, who in 1985 began to acknowledge the need to address the trade implications inherent in intellectual property right protection. This led to the Ministerial Declaration of 1986 which included Trade Related Aspects of Intellectual Property Rights (TRIPs) as one of the issues to be negotiated under the Uruguay Round of Trade negotiations. Those negotiations lasted for eight years with the final agreement being signed in 1994.

This brief history of the origins of the TRIPs Agreement is significant because it highlights that the primary purpose of the TRIPs Agreement was to provide international protection against counterfeiting and piracy. Such protection representing a protective shield against those who would steal or copy intellectual property, rather than a sword with which an intellectual property owner can use to coerce integrated manufactures to pay excessive royalty rates or acquiesce to unreasonable licensing terms. It is also worth noting that as the Agreement was signed in 1994, it was drafted at a time when standalone intellectual properties were the focus and as such did not address potential abusive activities related to correlated intellectual properties.

Commentary on Relevant Articles

'Article 8: Principles

1. Members may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement.
2. Appropriate measures, provided that they are consistent with the provisions of this Agreement, may be needed to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology.⁷¹⁷

Article 8 (2) clearly anticipates that it is possible to abuse intellectual property rights. While this recognition is significant in and of itself, the further recognition that governments are provided with the freedom to adopt "appropriate measures" to deal with such abuses, provides a foundation for the application of the correlated rights doctrine. The only question is whether applying the correlative rights doctrine is "consistent with the provisions of this agreements".

⁷¹⁷ TRIP's Agreement, Article 8

Because the doctrine itself does not prevent, but rather seeks to protect the right of intellectual property right holders to receive fair compensation for their contributions to an inherently property, it can be argued that the doctrine is entirely consistent with this Article.

'Article 28: Rights Conferred

1. A patent shall confer on its owner the following exclusive rights:
 - (a) where the subject matter of a patent is a product, to prevent third parties not having the owner's consent from the acts of: making, using, offering for sale, selling, or importing for these purposes that product;
 - (b) where the subject matter of a patent is a process, to prevent third parties not having the owner's consent from the act of using the process, and from the acts of: using, offering for sale, selling, or importing for these purposes at least the product obtained directly by that process.
2. Patent owners shall also have the right to assign, or transfer by succession, the patent and to conclude licensing contracts.⁷¹⁸

Included in Article 28 is a declaration of "exclusive rights" which was the historical foundation of intellectual property law, and which provided intellectual property owners with an absolute right to use their property in any way they choose. Such of declaration represents a challenge to the correlated rights doctrine because it does not restrict owners from using their properties to harm others. Fortunately, this challenge does not have to be litigated because subsequent Articles allow for exemptions to this "exclusive right".

'Article 30: Exceptions to Rights Conferred

Members may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties.⁷¹⁹

Article 30 represents a generic statement which provides members with the authorization of limit "exclusive rights". This potential for limiting rights is however constrained by a requirement that such limitation do not prevent property owners from the "normal exploitations of the patent" or "unreasonably prejudice" to their "legitimate interests". As primary purpose of the correlative rights doctrine is to protect the "legitimate interests" of property owners by restricting abusive behaviour of other rights holders, this Article would appear to be entirely consistent with the doctrine. Indeed, that fact that this Article specifies the objectives of an application of the correlated rights doctrine, it can be asserted that the doctrine can be "extracted" from the Article.

'Article 31: Other Use Without Authorization of the Right Holder

⁷¹⁸ *Id.* Article 28

⁷¹⁹ *Id.* Article 30

Where the law of a Member allows for other use of the subject matter of a patent without the authorization of the right holder, including use by the government or third parties authorized by the government, the following provisions shall be respected:

- (a) authorization of such use shall be considered on its individual merits;
- (b) such use may only be permitted if, prior to such use, the proposed user has made efforts to obtain authorization from the right holder on reasonable commercial terms and conditions and that such efforts have not been successful within a reasonable period of time. This requirement may be waived by a Member in the case of a national emergency or other circumstances of extreme urgency or in cases of public non-commercial use. In situations of national emergency or other circumstances of extreme urgency, the right holder shall, nevertheless, be notified as soon as reasonably practicable. In the case of public non-commercial use, where the government or contractor, without making a patent search, knows or has demonstrable grounds to know that a valid patent is or will be used by or for the government, the right holder shall be informed promptly;
- (c) the scope and duration of such use shall be limited to the purpose for which it was authorized, and in the case of semi-conductor technology shall only be for public non-commercial use or to remedy a practice determined after judicial or administrative process to be anti-competitive;
- (d) such use shall be non-exclusive;
- (e) such use shall be non-assignable, except with that part of the enterprise or goodwill which enjoys such use;
- (f) any such use shall be authorized predominantly for the supply of the domestic market of the Member authorizing such use;
- (g) authorization for such use shall be liable, subject to adequate protection of the legitimate interests of the persons so authorized, to be terminated if and when the circumstances which led to it cease to exist and are unlikely to recur. The competent authority shall have the authority to review, upon motivated request, the continued existence of these circumstances;
- (h) the right holder shall be paid adequate remuneration in the circumstances of each case, taking into account the economic value of the authorization;
- (i) the legal validity of any decision relating to the authorization of such use shall be subject to judicial review or other independent review by a distinct higher authority in that Member;
- (j) any decision relating to the remuneration provided in respect of such use shall be subject to judicial review or other independent review by a distinct higher authority in that Member;
- (k) Members are not obliged to apply the conditions set forth in subparagraphs (b) and (f) where such use is permitted to remedy a practice determined after judicial or administrative process to be anti-competitive. The need to correct anti-competitive practices may be taken into account in determining the amount of remuneration in such cases. Competent authorities shall have the authority to refuse termination of authorization if and when the conditions which led to such authorization are likely to recur;

(l) where such use is authorized to permit the exploitation of a patent ("the second patent") which cannot be exploited without infringing another patent ("the first patent"), the following additional conditions shall apply:

- (i) the invention claimed in the second patent shall involve an important technical advance of considerable economic significance in relation to the invention claimed in the first patent;
- (ii) the owner of the first patent shall be entitled to a cross-licence on reasonable terms to use the invention claimed in the second patent; and
- (iii) the use authorized in respect of the first patent shall be non-assignable except with the assignment of the second patent.⁷²⁰

To the extent that withholding injunctive relief falls under the definition of a law which "allows for other use of the subject matter of a patent without the authorization of the right holder, including use by the government or third parties authorized by the government" Article 31 represents a list of provisions which must be observed if that discretion is provided. Further because applying the correlated rights doctrine is dependent on that discretion, applying the doctrine must also require observing the same provisions. It should be pointed out that these provisions do not represent a singular requirement, but rather a cumulative requirement under which a breach of a single provision would make applying the correlative rights doctrine incompatible with the TRIPs Agreement. An individual analysis of each provision is provided below.

- The first provision requires that any use be considered on its individual merits. To the extent that the doctrine should only be applied in cases where inherently integrated properties are involved, an individual determination of that integrated nature of a property can be said to meet that provision.
- The second provision requires that a potential user must have tried to obtain that authorization from the rights holder on reasonable terms and those efforts have not been successful. This provision effectively requires that the user be a willing licensee that is willing to pay a fair price for the use of the property. Assuming that the owners is a willing licensor that is asking for fair compensation for the use of their property this should result in a mutually agreed license. If such negotiations fail because the user is not negotiating in good faith and/or because the royalties that the user is willing to pay are substantially lower than the value of the contribution, then both this provision and the correlated rights doctrine would prohibit the withholding of injunctive relief. Alternatively, if the negotiations fail because the parties (in good faith) cannot agree on a "fair" compensation, the judicial authorities are effectively arbitrating a contract between two willing parties rather than permitting unauthorised use. It is only if the owner refuses to enter into good faith negotiations or they are demanding unreasonable licensing terms that the correlative rights doctrine would need to be applied, which suggests that this provision is also consistent with the doctrine, as it would be the owner and not the user, who has been unwilling to negotiate in good faith.

⁷²⁰ *Id.* Article 31

- The third provision is that any unauthorised use must be limited in scope and duration. This too is consistent with the doctrine, as the application of the doctrine is ultimately restricted to uses which relate to the inherently integrated technology and any other use would be beyond the scope of the doctrine.
- The non-exclusive principle included in the fourth provision is implied in the correlative rights doctrine, as providing exclusivity would render the correlative rights of other contributors meaningless.
- The fifth principle which provides that use rights are not assignable matters little, because the withholding of injunctive relief is a specific ruling for an individual case which cannot be assigned to other defendants in other cases. That said if other defendants in other cases face the same rights abuse, they too should be able to rely on the courts to withhold injunctive relief in their own cases.
- While the sixth provision limiting the allowance of unauthorised use to national markets would appear to be incompatible with an application of the correlated rights doctrine to global technological product, this is not the case. All this provision demands is that the doctrine be applied individually in each domestic market. To the extent that it can be applied in some, but not all markets, this provision does not necessarily create a significant obstacle international trade, assuming that the major markets apply the doctrine. While it will create obstacles to trade in those local markets which are unwilling to protect integrated property owners, the unwillingness of apply the doctrine in any local market renders mute its compatibility with this provision.
- As the need to withhold injunctive relief exists only when owners are abusing their property rights, the seventh provision which mandates that allowing unauthorised use should terminated when that abuse ends are entirely consistent with the intent and application of the correlated rights doctrine. Further if the owner the integrated technology somehow takes ownership or control of all the other integrated properties such that the integrated technology becomes a standalone technology, this should not just eliminate the ability to withhold injunctive relief, it should eliminate that possible to apply any part of the correlated rights doctrine.
- The eighth provision requires that property owners are properly compensated for the use of their property. Nothing in the correlated rights doctrine would hinder this, indeed it is the objective of the doctrine that all property owners are properly compensated and that no property owners is allowed to appropriate through abuse of their rights value which proportionately belongs to other owners.
- The ninth provision mandates the possibility for judicial review are not in any way inconsistent with the correlated rights doctrine, and therefore entirely compatible with its application.
- The tenth provision was clearly designed to provide the flexibility required to allow the application of competition law to intellectual property matters. To the extent that the correlative rights doctrine more effectively solves the problems which arise from anti-competitive behaviour, it may in fact render this provision obsolete. In any event as competition law is not breached by the application of the correlative rights doctrine, at the very least the doctrine is compatible with this provision.

- The last provision included in this section is perhaps the most relevant to an application of the correlated rights doctrine. The idea that the use of a first patent can be authorised if it is needed to practice a second patent is obviously directly comparable, if not a de-facto application of correlated rights doctrine. This de-facto comparison being supported by the sub categories of this provision which like the correlated rights doctrine seek to impose reciprocity and reasonable licensing terms on the second patent holder. The only difference between this provision and the correlated rights doctrine is the magnitude of its participants. Whereas this provision is directed towards a bi-lateral relationship, the correlated rights doctrine can accommodate multi-lateral relationships involving any number of intellectual property owners who make qualitatively and quantitatively different contributions to an integrated technology.

To the extent that the correlative rights doctrine does not breach or is compatible with each of these provisions and the last provision de-facto anticipates its use, it can be objectively stated that the application of the correlated rights doctrine is entirely consistent with the overall Article.

'Article 40

1. Members agree that some licensing practices or conditions pertaining to intellectual property rights which restrain competition may have adverse effects on trade and may impede the transfer and dissemination of technology.
2. Nothing in this Agreement shall prevent Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market. As provided above, a Member may adopt, consistently with the other provisions of this Agreement, appropriate measures to prevent or control such practices, which may include for example exclusive grant back conditions, conditions preventing challenges to validity and coercive package licensing, in the light of the relevant laws and regulations of that Member.
3. Each Member shall enter, upon request, into consultations with any other Member which has cause to believe that an intellectual property right owner that is a national or domiciliary of the Member to which the request for consultations has been addressed is undertaking practices in violation of the requesting Member's laws and regulations on the subject matter of this Section, and which wishes to secure compliance with such legislation, without prejudice to any action under the law and to the full freedom of an ultimate decision of either Member. The Member addressed shall accord full and sympathetic consideration to, and shall afford adequate opportunity for, consultations with the requesting Member, and shall cooperate through supply of publicly available non-confidential information of relevance to the matter in question and of other information available to the Member, subject to domestic law and to the conclusion of mutually satisfactory agreements concerning the safeguarding of its confidentiality by the requesting Member.

4. A Member whose nationals or domiciliaries are subject to proceedings in another Member concerning alleged violation of that other Member's laws and regulations on the subject matter of this Section shall, upon request, be granted an opportunity for consultations by the other Member under the same conditions as those foreseen in paragraph 3.⁷²¹

Like the tenth provision of Article 31, Article 40 is intended to provide the flexibility needed to apply competition law to prevent intellectual property rights abuses. The only additional significance of this Article is that it creates an obligation for members to consult with the other members whose nationals are subject to the application of the competition law restrictions. None of this prevents the application of the correlated rights doctrine.

'Article 41

1. Members shall ensure that enforcement procedures as specified in this Part are available under their law so as to permit effective action against any act of infringement of intellectual property rights covered by this Agreement, including expeditious remedies to prevent infringements and remedies which constitute a deterrent to further infringements. These procedures shall be applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse.

2. Procedures concerning the enforcement of intellectual property rights shall be fair and equitable. They shall not be unnecessarily complicated or costly, or entail unreasonable time limits or unwarranted delays.

3. Decisions on the merits of a case shall preferably be in writing and reasoned. They shall be made available at least to the parties to the proceeding without undue delay. Decisions on the merits of a case shall be based only on evidence in respect of which parties were offered the opportunity to be heard.

4. Parties to a proceeding shall have an opportunity for review by a judicial authority of final administrative decisions and, subject to jurisdictional provisions in a Member's law concerning the importance of a case, of at least the legal aspects of initial judicial decisions on the merits of a case. However, there shall be no obligation to provide an opportunity for review of acquittals in criminal cases.

5. It is understood that this Part does not create any obligation to put in place a judicial system for the enforcement of intellectual property rights distinct from that for the enforcement of law in general, nor does it affect the capacity of Members to enforce their law in general. Nothing in this Part creates any obligation with respect to the distribution of resources as between enforcement of intellectual property rights and the enforcement of law in general.⁷²²

Article 41 represents a standard statement of the commitments expected by members in respect to the enforcement of intellectual property rights. While references in the first paragraph to "any act of infringement" indicates that these commitments were primarily designed for standalone intellectual property, the acknowledgement in the same paragraph that

⁷²¹ *Id.* Article 40

⁷²² *Id.* Article 41

there need to be "safeguards against their abuse" indicates that the paragraph could just as equally refer integrated intellectual property. Given this duality and specifically given that it includes a recognition that members need to protect against property rights abuse, it appears clear that this paragraph does not prevent the application of correlated property rights. The second paragraph which obligates countries to provide; fair and equitable trials on a timely and cost-effective basis is not just compatible, it is supportive of the application of the correlative rights doctrine. This because it should prevent users from engaging in abusive legal attrition which allows users with substantial legal resources to coerces small owners into accepting substantially less for the use of their property than it is worth. As there is nothing in any of the other paragraphs which could not just as easily be applied to either standalone or integrated intelctual properties the Article is consistent with the application of the correlated rights doctrine.

'Article 42 Fair and Equitable Procedures

Members shall make available to right holder's civil judicial procedures concerning the enforcement of any intellectual property right covered by this Agreement. Defendants shall have the right to written notice which is timely and contains sufficient detail, including the basis of the claims. Parties shall be allowed to be represented by independent legal counsel, and procedures shall not impose overly burdensome requirements concerning mandatory personal appearances. All parties to such procedures shall be duly entitled to substantiate their claims and to present all relevant evidence. The procedure shall provide a means to identify and protect confidential information, unless this would be contrary to existing constitutional requirements.⁷²³

Article 42 is included under the section of the TRIPs agreement which outlines the "Civil and Administrative Procedures and Remedies" which ought to be provided in the case of intellectual property disputes. The first thing to note is the inclusion of "equitable" in the title. This would suggest that it is supportive of the correlated rights doctrine because rules of equity were established to as a corrective measure to prevent situations where a dogmatic application of a strict reading of a law would result in an unjust outcome. However, this article may provide an obstacle to applying the correlative rights because its language is susceptible to abuse in the form of legal attrition. This obstacle is highlighted by the sentence "All parties to such procedures shall be duly entitled to substantiate their claims and to present all relevant evidence". If the words "all relevant evidence" is expanded to include absolutely anything that might have a bearing on the case, this would provide users with substantial legal resources with the right to engage in legal attrition. However, if those same words are restricted to material facts specifically related to the alleged infringement, it should not be a problem.

'Article 44: Injunctions

1. The judicial authorities shall have the authority to order a party to desist from an infringement, *inter alia* to prevent the entry into the channels of commerce in their jurisdiction of imported goods that involve the infringement of an intellectual property

⁷²³ *Id.* Article 42

right, immediately after customs clearance of such goods. Members are not obliged to accord such authority in respect of protected subject matter acquired or ordered by a person prior to knowing or having reasonable grounds to know that dealing in such subject matter would entail the infringement of an intellectual property right.

2. Notwithstanding the other provisions of this Part and provided that the provisions of Part II specifically addressing use by governments, or by third parties authorized by a government, without the authorization of the right holder are complied with, Members may limit the remedies available against such use to payment of remuneration in accordance with subparagraph (h) of Article 31. In other cases, the remedies under this Part shall apply or, where these remedies are inconsistent with a Member's law, declaratory judgments and adequate compensation shall be available.⁷²⁴

Because an abuse of injunctive relief represents the primary method for appropriating rewards from other contributors to an integrated technology, limitations on the availability of injunctive relief represents a key component of the correlative rights doctrine. Obviously if injunctive relief is an absolute right it would make it harder to prevent such abuse. According to Article 44 judicial authorities must have the "authority to order a party to desist from an infringement," however that does not mean that they *must* exercise that authority. This discretion is confirmed in paragraph where it is clearly stated that "Members may limit the remedies available against such use to payment of remuneration". This is precisely the outcome which would be directed under a correlated rights doctrine. As long as a user demonstrates a willingness to entering into good faith negotiation for the purposes of concluding a reasonable licensing agreement, they should not be coerced into accepting an unreasonable licensing agreement because of the threat of an injunctive action. Which is not to say that injunctive relief should not be available to owners of integrated intellectual property. Rather such relief should be reserved for situations where users; 1) do not respond to offers from owners to enter into good faith negotiations, 2) except an offer of good faith negotiation but negotiate in bad faith which prevents the negotiations from being concluded in a timely manner, and 3) when they do not abide by a mutually agreed or court-imposed licensing agreement. Given that Article 44 provides judicial authorities with the discretion needed to limit the provision of injunctive relief, it would appear to be entirely consistent with the application of the correlated rights doctrine

'Article 45: Damages

1. The judicial authorities shall have the authority to order the infringer to pay the right holder damages adequate to compensate for the injury the right holder has suffered because of an infringement of that person's intellectual property right by an infringer who knowingly, or with reasonable grounds to know, engaged in infringing activity.

2. The judicial authorities shall also have the authority to order the infringer to pay the right holder expenses, which may include appropriate attorney's fees. In appropriate cases, Members may authorize the judicial authorities to order recovery of profits

⁷²⁴ *Id.* Article 44

and/or payment of pre-established damages even where the infringer did not knowingly, or with reasonable grounds to know, engage in infringing activity.⁷²⁵

Given that prime objective of the correlative rights doctrine is to protect the right of property owners to receive their fair share of the rewards from an integrated property, Article 45 represents perhaps the most relevant requirement of the entire Agreement. In order to be entirely consistent with the doctrine the Article should require that judicial authorities *must* order infringers to pay adequate compensation to rights holders rather than only having the authority of order infringers to pay adequate compensation to infringers. That said this judicial discretion does have its benefits in that it allows judicial authorities the flexibility to discount or eliminated damages for owners who attempt to abuse their rights to coerce users into accepting unreasonable licensing agreements.

As there appears to be nothing in the specific article which appear to prevent the application of the correlated rights doctrine, the only issue which remain to be addressed is what level of discretion is provided in the TRIPs agreement for the three critical questions.

Answers to Correlated Rights Questions

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

In terms of providing the discretion to grant injunctive relief it should be recalled that injunction relief can be granted in three different phases of the trial. It can be granted before the trial using a preliminary injunction, it can be a remedy ordered at the conclusion of the trial, and it can be ordered after the trial if there is a breach of other remedies ordered by the trial. While the TRIPs agreement is silent as to whether injunctive relief is in any way dependent upon the size of the contribution to an integrated technology, it is implausible suggest that it proscribes the grant of that relief regardless of circumstances. As to Article 42 which stipulates that the "These procedures shall be applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse". This should be interpreted as meaning that courts have the discretion to withhold injunctive relief, if that relief is being abused and not a rule forbidding relief for small owners. Indeed, it would appear to be entirely unreasonable if smaller owners were not protected from the abuses perpetrated by larger users, particularly if those users were breach other remedies ordered by the courts.

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

⁷²⁵ *Id.* Article 45

It appears clear that the Article 42 of the TRIPs agreement allows judicial authorities the discretion to withhold injunctive relief in order to avoid creating "barriers to legitimate trade and to provide for safeguards against their abuse." This discretion is however constrained by the provision included in Article 31. So long as none of these provisions are breached the discretion to withhold injunctive relief is compatible with it.

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

Discretion as to damages is covered by Article 45, which deals specifically with damages. Because the word "shall", and not "must", is used in this Article; the provisions of the Article represents a standard which judicial authorities can apply at their discretion. In fact, this discretion goes far beyond what would be available when applying the correlated rights doctrine; as it does not include rules which would require that intellectual property owners be granted some compensation, even if it were equivalent to at the lowest lever of the reasonable royalty range. As far as running royalties for ongoing unauthorised use, there appears to be no distinction between this and lump sum damages for past use.

Summary of the TRIPs Agreement Compatibility

Although the TRIPs Agreement was signed when protecting standalone intellectual property was the primary objective, it was drafted in a way which provided a surprising degree of discretion to the signatories. While this discretion could not have been intended to provide room to apply the correlated rights doctrine, there is no reason why it cannot be used for that purpose. Indeed, to the extent that the last provision of Article 31, which requires that an unauthorised use of a patent can be granted when it is needed to practice a second, represents a recognition of the correlated nature of integrated intellectual properties, it can be considered a de facto application of the correlated rights doctrine. This de-facto comparison being supported by the sub categories of this provision which like the correlated rights doctrine seek to impose reciprocity and reasonable licensing terms on the second patent holder. The only difference between this provision and the correlated rights doctrine is the magnitude of its participants. Whereas this provision is directed towards a bi-lateral relationship, the correlated rights doctrine can accommodate multi-lateral relationships involving any number of intellectual property owners who make qualitatively and quantitatively different contributions to an integrated technology.

The real question is whether the large standalone intellectual property owners which initiated and supported the TRIPs Agreement are willing to allow it to be reinterpreted in a manner which protects not only their rights, but the correlated rights of smaller integrated property owners.

10.3 The European Enforcement Directive

Like the TRIPs agreement the work on the Enforcement Directive⁷²⁶ was initiated out of concern for the harm caused by counterfeiting and piracy of intellectual property. This harm having been outlined in a Green Paper published by the Commission on October 22, 1998.⁷²⁷ In response to this paper the EU Parliament passed a resolution which called on the Commission to "adopt a global and coordinated approach comprising of a preventative and a law enforcement aspect" to address this harm including a call to consider the possibility of establishing a EU level criteria for calculation damages, and proposals for allocation of duties between courts.⁷²⁸ This led to a proposal for a Directive on measures and procedures to ensure the enforcement of intellectual property rights which was presented to Parliament by the Commission on January 30, 2003.⁷²⁹ In it, the aims of the proposals were described as; 'harmonising national legislation, supplementing existing internal market measures, and supplementing existing anti-counterfeiting and anti-piracy measures relative to the third countries and multilateral agreements, (in particular the TRIPs agreement).'⁷³⁰

Most significantly, and what made this proposal different from the commitment that the Member States had already made when they signed the TRIPs Agreement, was its recommendations on for double damages and mandatory criminal penalties for serious infringements.⁷³¹ Serious infringements being defined as intentional infringement on a commercial scale.⁷³² Obviously these aggressive penalties were targeted at criminal operations which had no intention of paying any royalties for the intellectual property, but they also would have caught any integrated technology manufacture who was having a in dispute with owners over licensing terms. This possibility of criminalizing a business dispute was clearly not recognised, because nowhere in the proposal is there any recognition that such measure could be abused to coerce users to accept unreasonable licensing demands. Fortunately, these provisions were stripped out of the Directive as a result of responses to the proposal and a desire for quick approval. The EU Economic and Social Committee pointing out that 'possible penalties cannot be entirely dissociated from the substantive law and abuses of IP-LAP rights by right holders must not be overlooked [and that] The Commission's competence in criminal affairs is the subject of a dispute between the Council and the Commission currently before the Court of Justice, and the Committee cannot prejudge the issue which will become *res judicata* in the future.'⁷³³ In particular the contentious nature of criminal sanctions meant that their inclusion would have delayed the approval of the Directive past the accession date for eight Eastern European countries and two Mediterranean isles,⁷³⁴ and there was no guarantee that the new

⁷²⁶ DIRECTIVE 2004/48/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the enforcement of intellectual property rights (Text with EEA relevance) 29/04/2004 OJ L 157, 30.4.2004, p. 45–86

⁷²⁷ Green Paper (COM (98) 0569 final)

⁷²⁸ Counterfeiting and Piracy in the Single Market, A5-0096/2000 [OJ C 116,28.4.1999, p35]

⁷²⁹ Proposal for a Directive of the European Parliament and of the Council on measures and procedures to ensure the enforcement of intellectual property rights /* COM/2003/0046 final - COD 2003/0024 */

⁷³⁰ *Id.* Introduction

⁷³¹ *Id.*: Part Four, Para 24, p31; Para 25, p32; Article 17 & Article 20.

⁷³² *Id.*

⁷³³ Opinion of the European Economic and Social Committee on the 'Proposal for a Directive of the European Parliament and of the Council on measures and procedures to ensure the enforcement of intellectual property rights' (COM (2003) 46 final — 2003/0024 (COD)) (2004/C 32/02)

⁷³⁴ May 1, 2004: Accession granted to Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia

Member States would be favourable towards such blunt enforcement tools; when those tools could be used by large corporations against their citizens for relatively minor infringements.

Because the enhanced penalties were stripped out of the enforcement directive, it did not have as significant an impact as was initially intended. In fact, because most of what was left was already covered by the TRIPS agreement, the true and most significant impact of the Enforcement Directive was that by creating this European harmonization objective, it unequivocally established European Union competence over intellectual property law. A competence which was needed in order to advance the ultimate objective replacing national laws with a unitary patent system and which had the added benefit of avoiding the possibility of the World Trade Organization having a greater influence over the European patents than the European Courts.

Commentary on Relevant Paragraphs and Articles

'Paragraph (2) The protection of intellectual property should allow the inventor or creator to derive a legitimate profit from his/her invention or creation. It should also allow the widest possible dissemination of works, ideas and new know-how. At the same time, it should not hamper freedom of expression, the free movement of information, or the protection of personal data, including on the Internet.

Paragraph (3) However, without effective means of enforcing intellectual property rights, innovation and creativity are discouraged and investment diminished. It is therefore necessary to ensure that the substantive law on intellectual property, which is nowadays largely part of the *acquis communautaire*, is applied effectively in the Community. In this respect, the means of enforcing intellectual property rights are of paramount importance for the success of the internal market.⁷³⁵

Perhaps the most succinct explanation of the purpose of intellectual property law is provided in paragraph two of the recitals where it states that; "The protection of intellectual property should allow the inventor or creator to derive a legitimate profit from his/her invention or creation. It should also allow the widest possible dissemination of works, ideas and new know-how." The first part of this statement referring to protecting "legitimate profit" embodies in a shortened version of the main objective of the applying the correlated rights doctrine intellectual property law. That main objective being to ensure that intellectual property owners are appropriately rewarded for their contribution to an integrated technological product. The second part of that statement is equally consistent with the correlated rights doctrine because when owners receive appropriate rewards it provides an incentive to create new innovations. The question of what happens when an owner's right to their "legitimate profits" is not protected is the subject of paragraph three. This assessment of the need to protect owners because it protects the market corresponding directly to the correlated rights doctrine's desire to produce without harming the innovation environment by preventing the rewards of owners being appropriated by other owners.

'The TRIPS Agreement contains, in particular, provisions on the means of enforcing intellectual property rights, which are common standards applicable at international

⁷³⁵ Enforcement Directive, Paragraphs 1-2

level and implemented in all Member States. This Directive should not affect Member States' international obligations, including those under the TRIPS Agreement

Paragraph (6) There are also international conventions to which all Member States are parties and which also contain provisions on the means of enforcing intellectual property rights. These include, in particular, the Paris Convention for the Protection of Industrial Property, the Berne Convention for the Protection of Literary and Artistic Works, and the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations.¹⁷³⁶

Paragraphs five and six of the recitals are noteworthy in that they refer to the need to respect the commitments made under the international agreements which came before the Enforcement Directive. However, as the early analysis of both the Paris Convention and TRIPS agreement have indicated no serious impediment to application of the correlated rights doctrine, neither do these two stipulations.

'Paragraph (7) It emerges from the consultations held by the Commission on this question that, in the Member States, and despite the TRIPS Agreement, there are still major disparities as regards the means of enforcing intellectual property rights. For instance, the arrangements for applying provisional measures, which are used in particular to preserve evidence, the calculation of damages, or the arrangements for applying injunctions, vary widely from one Member State to another. In some Member States, there are no measures, procedures and remedies such as the right of information and the recall, at the infringer's expense, of the infringing goods placed on the market.

Paragraph (8) The disparities between the systems of the Member States as regards the means of enforcing intellectual property rights are prejudicial to the proper functioning of the Internal Market and make it impossible to ensure that intellectual property rights enjoy an equivalent level of protection throughout the Community. This situation does not promote free movement within the internal market or create an environment conducive to healthy competition.

Paragraph (9) The current disparities also lead to a weakening of the substantive law on intellectual property and to a fragmentation of the internal market in this field. This causes a loss of confidence in the internal market in business circles, with a consequent reduction in investment in innovation and creation. Infringements of intellectual property rights appear to be increasingly linked to organised crime. Increasing use of the Internet enables pirated products to be distributed instantly around the globe. Effective enforcement of the substantive law on intellectual property should be ensured by specific action at Community level. Approximation of the legislation of the Member States in this field is therefore an essential prerequisite for the proper functioning of the internal market.¹⁷³⁷

Paragraphs seven, eight and nine together define why the EU felt there was a need to more clearly define the legal treatment of intellectual property in the EU through the Enforcement

⁷³⁶ *Id.* Paragraphs 5-6

⁷³⁷ *Id.* Paragraphs 7-9

Directive. The essence of which is that the disparities in the treatment of intellectual property rights were causing a loss of confidence in the internal market which lead to reductions in investment in innovation and creation. These paragraphs are included because the messages which they are conveying are as relevant to the appropriation of property through an abuse of the legal process, as they are to the appropriation through organised crime. In both cases when owners are deprived of their "legitimate profit" they will not be able to invest in innovation and creation. Obviously if some Member States applying the correlative rights doctrine while others do not, this could just as easily deter the free movement of goods within the market.

'Paragraph (17) The measures, procedures and remedies provided for in this Directive should be determined in each case in such a manner as to take due account of the specific characteristics of that case, including the specific features of each intellectual property right and, where appropriate, the intentional or unintentional character of the infringement.

Paragraph (23) Without prejudice to any other measures, procedures and remedies available, rightholders should have the possibility of applying for an injunction against an intermediary whose services are being used by a third party to infringe the rightholder's industrial property right. The conditions and procedures relating to such injunctions should be left to the national law of the Member States. As far as infringements of copyright and related rights are concerned, a comprehensive level of harmonisation is already provided for in Directive 2001/29/EC. Article 8(3) of Directive 2001/29/EC should therefore not be affected by this Directive.

Paragraph (24) Depending on the particular case, and if justified by the circumstances, the measures, procedures and remedies to be provided for should include prohibitory measures aimed at preventing further infringements of intellectual property rights. Moreover, there should be corrective measures, where appropriate at the expense of the infringer, such as the recall and definitive removal from the channels of commerce, or destruction, of the infringing goods and, in appropriate cases, of the materials and implements principally used in the creation or manufacture of these goods. These corrective measures should take account of the interests of third parties including, in particular, consumers and private parties acting in good faith.

Paragraph (26) With a view to compensating for the prejudice suffered as a result of an infringement committed by an infringer who engaged in an activity in the knowledge, or with reasonable grounds for knowing, that it would give rise to such an infringement, the amount of damages awarded to the rightholder should take account of all appropriate aspects, such as loss of earnings incurred by the rightholder, or unfair profits made by the infringer and, where appropriate, any moral prejudice caused to the rightholder. As an alternative, for example where it would be difficult to determine the amount of the actual prejudice suffered, the amount of the damages might be derived from elements such as the royalties or fees which would have been due if the infringer had requested authorisation to use the intellectual property right in question. The aim is not to introduce an obligation to provide for punitive damages but to allow

for compensation based on an objective criterion while taking account of the expenses incurred by the rightholder, such as the costs of identification and research.⁷³⁸

This final selection of paragraphs from the recitals are included because they provide a broad outline of the standards which are to be followed when enforcing intellectual property rights in Europe. Paragraph 17 effectively stipulates that each case should be judged on their individual merits. The integrated nature of the intellectual property clearly represents one consideration and a determination which finds abusive behaviour would be another. Paragraph 23 states that injunctive relief should be available, but Member States should have discretion over its application. Such discretion being essential to the application of the correlated rights doctrine. Paragraph 24 outlines additional measures which should be available to discourage infringements, these too appear to be left to the discretion of the Member States. In stating that these addition corrective measure "should take account of the interests of third parties" with a particular emphasis on consumers, the standard it is espousing makes clear that the interest of the owner are not absolute, and these have to be balance against the interest of society. As society and consumers are disadvantaged when owners and users are able to abuse the legal system to appropriate rewards that rightly belong to others, this caveat would appear to support the application of the correlated rights doctrine which prevents such appropriations. Finally, paragraph 24 outlines the components which should be considered when calculating the compensation which be provided when an infringement is found. These apparently should focus on the "loss of earnings incurred by the rightholder, or unfair profits made by the infringer and, where appropriate, any moral prejudice caused to the rightholder." However, when it is "difficult to determine the amount of the actual prejudice suffered" alternative such as "royalties or fees which would have been due if the infringer had requested authorisation to use the intellectual property". The overall objective being to "allow for compensation based on an objective criterion while taking account of the expenses incurred by the rightholder, such as the costs of identification and research. Each of these criteria will be analysed on their individual merit.

The "loss of earnings incurred by the right holder" can be described as the profit that the owner would have received (but lost) on the on the sale of their products, when consumers bought the infringing product rather than their own product. This calculation is reasonably straight forward when it involves standalone intellectual properties where the owner is the sole producer of the product and the infringement products have a direct impact on the sale of those products. All that is required is to multiply the profit the owner makes on each product it sells by the number of products which the infringer sold. Unfortunately, such simple math cannot be used when integrated intellectual properties are involved. In order for this calculation to work for integrated properties, the courts would have to be able to determine with a reasonable degree of certainty what percentage of the owner's profits can be directly attributed to the infringed property, and then multiply that number by the number of units sold by the infringing user. It is the first part of that calculation which is difficult, but not impossible, and it may be the best way of determining damages for those owners which also produce the technological product. That said, this calculation is completely inapplicable when the owner does not actually produce the integrated technological product.

⁷³⁸ *Id.* Paragraphs 17, 24, 26

Like the "loss of earnings" the "unfair profits made by the infringer" calculation mechanism is geared towards the profits made by an infringer who has infringed standalone intellectual property or properties which belong to a single owner. All that calculation requires is to find out how much profit the infringer made on the infringing products which they sold. It should be noted that such a calculation will often be much less than the "loss of earnings" as many infringers will sell their products at a substantially lower price than original manufacturers in an effort to increase sales. These lower prices will lead to lower profits, which makes the "loss of earnings" calculation a more appropriate for calculating damages for standalone properties. As with "loss of earnings" this calculation also becomes much more difficult when integrated properties are involved. Obviously to the extent that there are more than one owner of the infringed integrated properties, at the very least that same profit must be divided between those owners. But what if the infringed properties represent an insignificant percentage of the integrated properties, and the infringer has a licence to all the other properties? Does that infringement entitle the owner to 100% of the user's profits or are they only entitled to some pro-rata share of that profit? Assuming that an infringer is only infringing because of a genuine dispute over the value of the contribution that the infringed property makes to the integrated technological product, would it not be an abuse of the legal system to award damages in excess of the highest realist valuation of that contribution?

Because "moral prejudice caused to the rightholders" involves a subjective assessment which mainly applies to standalone property infringements, it does not need to be addressed in a correlated property context.

As an alternative calculation basis, it is suggested that "damages might be derived from elements such as the royalties or fees which would have been due if the infringer had requested authorisation to use the intellectual property". This would be fine, assuming that the owners are willing to license their property on terms which reflect the value that the property contributes to the integrated technological product. The problem arises when they demand more than what their property contributes, and it is these excessive demands which result in the case coming to court. If the calculation is based solely on what the owner's excessive demands than the courts would be facilitating the indirect appropriation of property from the user. If, however the royalty calculation is based upon the best estimate of an appropriate rate for the infringed products it would from a practical prospective applying the correlated rights doctrine.

Included at the end of the paragraph is an observation which suggests that every calculation should take "account of the expenses incurred by the rightholder". As commendable as this objective might be, it is unfortunately quite misplaced. This because there is seldom a direct correlation between the cost of creating an innovation and its value. Indeed, while some valuable innovations represent a virtually costless stroke of genius, others may be virtually worthless even though they cost millions to develop. This is not to suggest that research and development costs should be excluded from the calculation, they can obviously be used as supporting evidence for calculations which determine valuations by other means.

Regardless of the method of the calculation these various compensation remedies, none of them represent hard fast rules and should be considered as standards. The discretion as to how those standards should be applied, falling to the Members States. Further because the entire recitals represent only guidance on how the actual law should be interpreted, everything in the recitals is also more of a standard than a rule. To find hard fast rules one needs to examine the

actual articles of the law. Those articles which are relevant to the application of the correlated rights doctrine are provided below.

'Article 3 General obligation

1. Member States shall provide for the measures, procedures and remedies necessary to ensure the enforcement of the intellectual property rights covered by this Directive. Those measures, procedures and remedies shall be fair and equitable and shall not be unnecessarily complicated or costly, or entail unreasonable time-limits or unwarranted delays.

2. Those measures, procedures and remedies shall also be effective, proportionate and dissuasive and shall be applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse.⁷³⁹

The most striking things about this Article are the provisions which Member States are to abide by when they are enforcing the intellectual property rights. First there is the provision which requires that the procedures shall be fair and equitable. This is obviously entirely compatible with the correlated rights doctrine. Then there is the provision which stipulates that proceedings should not be unnecessarily complicated, costly or time consuming. Each of these is perfectly worded to avoid legal attrition, which the correlated rights doctrine also seeks to prevent. Then there is paragraph two. If there was ever legal working which came close to embodying the correlative rights doctrine this is it. First it requires remedies to be proportionally, which mirrors the idea that correlated rights should allow each owner to recover their fair or proportionate share of the value of an integrated technology. Then there is the requirement which mandates that the enforcement of intellectual property rights should be applied in a manner which safeguards against abuses. Again, this is precisely what an application of the correlated rights doctrine is intended to do.

'Article 9 Provisional and precautionary measures

1. Member States shall ensure that the judicial authorities may, at the request of the applicant:

(a) issue against the alleged infringer an interlocutory injunction intended to prevent any imminent infringement of an intellectual property right, or to forbid, on a provisional basis and subject, where appropriate, to a recurring penalty payment where provided for by national law, the continuation of the alleged infringements of that right, or to make such continuation subject to the lodging of guarantees intended to ensure the compensation of the rightholder.

2. In the case of an infringement committed on a commercial scale, the Member States shall ensure that, if the injured party demonstrates circumstances likely to endanger the recovery of damages, the judicial authorities may order the precautionary seizure of the movable and immovable property of the alleged infringer, including the blocking of his/her bank accounts and other assets. To that end, the competent authorities may order the communication of bank, financial or commercial documents, or appropriate access to the relevant information. ...

⁷³⁹ *Id.* Article 3

6. The competent judicial authorities may make the provisional measures referred to in paragraphs 1 and 2 subject to the lodging by the applicant of adequate security or an equivalent assurance intended to ensure compensation for any prejudice suffered by the defendant as provided for in paragraph 7.

7. Where the provisional measures are revoked or where they lapse due to any act or omission by the applicant, or where it is subsequently found that there has been no infringement or threat of infringement of an intellectual property right, the judicial authorities shall have the authority to order the applicant, upon request of the defendant, to provide the defendant appropriate compensation for any injury caused by those measures.⁷⁴⁰

The first thing to note in this Article and which will be noted in other Articles, is that while first sentence it makes clear that these provisional measures must be included in Member State intellectual property law, their use is at the discretion of the judicial authorities. This differentiation between a hard rule and a discretionary standard being indicated by the use of "shall" for the former and "may" for the later. This is significant because that judicial discretion is an essential element in the application of the correlated rights doctrine. In terms of the measures themselves, this Article specifically stipulates that there should be four options which the judicial authorities have the discretion to order, these are; 1) preliminary injunction, 2) preliminary injunction with recurring penalties for none compliance, 3). withholding preliminary injunction but ordering measure to ensure proper compensation if infringement is found and 4) closing the operations of the infringer by seizing its assets. To the extent that options two and four are focused on users which are not expected to abide by court orders, they will not be discussed here. Both options two and three are particularly relevant to the application of the correlated rights doctrine because they provide judicial authorities with the tools they need to solve two problems.

The discretion to grant preliminary injunctive relief can be used to solve the problem of abusive users, who have been un-willing to engage in good faith negotiation with owners. This has significance when it is a small owner with limited financial and legal resources who is suing a larger technology producer which have virtually unlimited financial and legal resources. At the very least the possibility that preliminary injunction can be ordered, should induce users to take seriously and respond to infringement claims in a timely basis. Ideally it will motivate them to do an immediate appraisal of the claim and enter into good faith negotiations, if there is a possibility that the claim is justified.

The discretion to withhold injunctive relief while ordering measure to ensure proper compensation, can be used to solve the problem of abusive owners who are or have been unwilling to license their integrated properties, are only willing to license them on unreasonable term which may or may not include excessive royalty rates. In this situation, and assuming that the user has shown a willingness to enter into good faith negotiations, the only real concern is to ensure that the owner will eventually receive some compensation for the use of their property. The very existence of this option indicates that this is a situation which was assumed can occur and needed to be addressed.

⁷⁴⁰ *Id.*, Article 9

There is of course another option which while not specifically mentioned in the Article, but which is inherent in the discretion provided. That is the option to do none of the above. This option may be the most appropriate when there is a willing user and there is no question of them being able to and willing to comply with a court order settlement. In such a situation preliminary actions are not necessary as it will always be the case that the owner will receive the court order compensation which results from the actual trial.

The provisions in paragraph three and four of this Article are also relevant to the application of the correlated rights doctrine because they will act as a deterrent to owners who are attempting to abuse the legal system, by threatening preliminary action unless their unreasonable licensing terms are met.

'Article 10 Corrective measures

1. Without prejudice to any damages due to the rightholder by reason of the infringement, and without compensation of any sort, Member States shall ensure that the competent judicial authorities may order, at the request of the applicant, that appropriate measures be taken with regard to goods that they have found to be infringing an intellectual property right and, in appropriate cases, with regard to materials and implements principally used in the creation or manufacture of those goods. Such measures shall include:

- (a) recall from the channels of commerce
- (b) recall from the channels of commerce or
- (c) destruction.

2. The judicial authorities shall order that those measures be carried out at the expense of the infringer, unless particular reasons are invoked for not doing so.

3. In considering a request for corrective measures, the need for proportionality between the seriousness of the infringement and the remedies ordered as well as the interests of third parties shall be taken into account.⁷⁴¹

Like the provisional measure included in Article 9, this Article also begins with a sentence that requires Member States to include the possibility of these corrective measures in their intellectual property law, while providing judicial authorities with the discretion to order their use. Oddly the way in which this Article is drafted does not constrain the discretion of the judicial authorities to order or withhold these measures, but it does constrain their discretion with respect to whether the infringer should pay the cost of implementing the measures if ordered. Whether this was intended or not cannot be determined, but it really does not matter. Even if it was intended, if that discretion was constrained by having a "particular reason for not doing so", that reason is always present when the intellectual property is an integrated part of a larger technological product. The third paragraph is relevant because it indicates that it was anticipated that there would be circumstances in which these measures should not be taken. The "seriousness of the infringement" could easily be linked to the proportionate share of the integrated technological product that the intellectual property represents. To the extent that that proportionate share is 100%, as it would be with the infringement of a standalone intellectual property, it would be the most serious infringement. However, if that proportionate

⁷⁴¹ *Id.* Article 10

share only represents a tiny fraction of the intellectual properties included in an integrated technological product, that seriousness of the infringe would be much lower. A similar consideration can be taken with respect the "the interest of third parties". When there are no other owners which have contributed to a technological product, third party interest would be substantially lower than when there are thousands of owners which have contributed to an integrated technological product. The extent that these types of consideration can be used to withhold the measures stipulated in this Article it is clearly no impediment to the application of the correlated rights doctrine.

'Article 11 Injunctions

Member States shall ensure that, where a judicial decision is taken finding an infringement of an intellectual property right, the judicial authorities may issue against the infringer an injunction aimed at prohibiting the continuation of the infringement. Where provided for by national law, non-compliance with an injunction shall, where appropriate, be subject to a recurring penalty payment, with a view to ensuring compliance.¹⁷⁴²

Like the previous two Articles, this injunction Article begins with a sentence that requires Member States to include the possibility of these injunctive relief in their intellectual property law, while providing judicial authorities with the discretion to order their use. The unconstrained nature of this discretion is a clear indication of its compatibility with the application of the correlated rights doctrine, which relies on the ability of the judicial authorities to grant or withhold injunctive relief to be effective. A compatibility which is in no way compromised by the qualified rule, that Member States shall impose recurring penalty payments for non-compliance. Non-compliance to a court order is of course much more significant than a mere infringement, as it indicates a contempt for both the law and the court, which is generally only exhibited by intentionally abusive or criminal litigants.

'Article 12 Alternative measures

Member States may provide that, in appropriate cases and at the request of the person liable to be subject to the measures provided for in this section, the competent judicial authorities may order pecuniary compensation to be paid to the injured party instead of applying the measures provided for in this section if that person acted unintentionally and without negligence, if execution of the measures in question would cause him/her disproportionate harm and if pecuniary compensation to the injured party appears reasonably satisfactory.¹⁷⁴³

As this Article is included in that same section as the Articles 10-11 it is intended to indicate when judicial authorities may consider compensation rather than ordering either corrective measures or injunctive relief. Unfortunately, its meaning is obscured by a drafting omission which fails to indicate whether the condition under which judicial discretion "may" be provide are separable or cumulative. According to the Article those conditions are 1) that the user was

⁷⁴² *Id.* Article 11

⁷⁴³ *Id.* Article 12

unaware of the infringement, 2) that measure would cause disproportionate harm and 3) that the compensation will cure the harm caused by the infringement. If they are separable than if any one of the conditions are met, compensation can be provided in lieu of either corrective measures or injunctive relief. If they are cumulative every condition must be met in order before either corrective measure or injunctive relief can be withheld. Fortunately, it is not necessary to argue over semantics because both the recitals and Articles provide clarity as to the intent. The recitals provide clarity as there are numerous references to the concerns about protecting parties from intellectual property rights abuse. To the extent that these concerns need to be taking into account when interpreting the Articles, this means the conditions must be separable, because if they were cumulative, it would be impossible to prevent abuses. The Articles themselves provide clarity because of the unconstrained nature of the discretion provided in them. If it was intended that discretion was to be so severely restricted, the Articles would not have been drafted in the way that they were. Given severable intent; the next question is which of the conditions would permit the provision of judicial discretion when the disputes involve integrated intellectual properties? The first condition would seldom do this, as owners almost always notify users of an infringement claim, which means the users are aware of the potential infringement. By contrast the second and third conditions are almost always met when the dispute involves an integrated technology. The second is met because the corrective measures and/or injunctive relief of an integrated technology, damages everyone who contributed to the technology. The third condition is met, because most owners who provide intellectual property to be integrated into a technology, do so in order to obtain compensation for their contributions. Both conditions are equally applicable the deciding when the correlative rights doctrine should be applied.

'Article 13 Damages

1. Member States shall ensure that the competent judicial authorities, on application of the injured party, order the infringer who knowingly, or with reasonable grounds to know, engaged in an infringing activity, to pay the rightholder damages appropriate to the actual prejudice suffered by him/her as a result of the infringement.

When the judicial authorities set the damages:

- (a) they shall take into account all appropriate aspects, such as the negative economic consequences, including lost profits, which the injured party has suffered, any unfair profits made by the infringer and, in appropriate cases, elements other than economic factors, such as the moral prejudice caused to the rightholder by the infringement, or
- (b) as an alternative to (a), they may, in appropriate cases, set the damages as a lump sum on the basis of elements such as at least the amount of royalties or fees which would have been due if the infringer had requested authorisation to use the intellectual property right in question.

2. Where the infringer did not knowingly, or with reasonable grounds know, engage in infringing activity, Member States may lay down that the judicial authorities may order the recovery of profits or the payment of damages, which may be pre-established.¹⁷⁴⁴

⁷⁴⁴ *Id.* Article 13

This Article is the first one in the Enforcement Directive which restricts Member state authority to grant their judicial authorities with the discretion in intellectual property disputes. Specifically, it eliminates their discretion on whether they can award damages to owners when the user is aware of their infringement. The requirement to award damages being clearly stipulated by the wording that states "Member States shall ensure...damages appropriate to the actual prejudice suffered". However, although this does restrict judicial discretion, it does not eliminate it. It is not eliminated because those same authorities are free to set damages under the rather extremely loosely defined guideline included in the Article. The looseness of those guidelines signified by the phrase that "they shall take into account all appropriate aspects", which even though it is followed by some suggested methodology, does not specifically stipulate that that methodology must be followed. Further even if the suggested methodology is intended to be mandatory, each could produce a very different result depending on how they are interpreted. The clearest example of how interpretation could change the result would be the methodology that requires that the damages be set at a level which represents "at least the amount of royalties or fees which would have been due if the infringer had requested authorization". Does the least amount mean; the lowest rate which the owner had already charged other users, the lowest rate which the owner quoted to the user, or the lowest rate that the user is charged by other owners for the use of a similar piece of integrated intellectual property? Because none of these calculation methods is specified, it would appear that the judicial authorities have the discretion on deciding which would be the most appropriate depending on the circumstances. In instances where the owner has been demanding excessive royalty rates from users, it would appear entirely appropriate to make that calculation based upon the rate that the user pays other owners for the use of similar integrated intellectual property. Whereas in the instances where the user is engaging in legal arbitrage to drive down the royalty rates below a reasonable royalty range, it would appear entirely inappropriate to use their discounted rates and instead make the calculation based on the owners asking rate.

Regardless of which calculation method is chosen by the judicial authorities, nothing in this Article in any way prevents the application of the correlated rights doctrine. This because the primary objective of applying the doctrine in intellectual property law is to ensure that compensation within a reasonable royalty range is provided to all owners that contribute to an integrated technological product. In fact, it could be argued that, to the extent that this Article ensures that all owners will get appropriate compensation for the unauthorised use of their property, it represents an essential enforcement mechanism for the implementation of the doctrine.

'Article 14 Legal costs

Member States shall ensure that reasonable and proportionate legal costs and other expenses incurred by the successful party shall, as a general rule, be borne by the unsuccessful party, unless equity does not allow this.¹⁷⁴⁵

Like so many others, while Article 14 has the appearance of a rule, it is really just a standard. It looks like a rule because it stipulates that Member States "shall" ensure unsuccessful parties pay costs. However, it is a standard, because it qualifies this stipulation with the caveat "unless

⁷⁴⁵ *Id.* Article 14

equity does not allow this". Obviously, this caveat provides Member States with the flexibility to grant their judicial authorities with the they need to decide whether cost should be paid, even if litigants found guilty of infringement. Presumably if the reason for the infringement was that the owner was demanding excessive royalty rates, equity would prohibit them being awarded cost for engaging in this abusive behaviour. This at least would be the positions adhered to when applying the correlated rights doctrine. Whether this call for equity provides judicial authorities with the discretion to order that the owner pay the cost of the user when they clearly have been abusing the legal process, is unclear. However, assuming that the call for equity is serious, then this must also open up the possibility to punish owners who do so.

Given that the recitals and Articles of the enforcement directive tend to support the application of the correlated rights doctrine the next step is to assess the implications of the directive would have with respect the four fundamental questions included at the beginning of this chapter.

Answers to the Correlated Questions

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

As the discretions to stay proceedings is not specifically mentioned in either the recitals or the Articles, the possibility of doing so would appear to rely on intents included in paragraph 17 of the pre-ample and subject to Article 3 of the law. In paragraph 17 it is stated that "measures, procedures and remedies" should be determined according to the specific characteristics of the cases and the specific features of each property right. The inclusion of procedures in this invocation indicates that procedures can vary from case to case and should vary according to the nature of the property right involved. At the very least this opens up the possibility for a short stay in proceedings intended to allow that litigants an opportunity to reconsider their behaviour. Paragraph (1) of Article 3 states that "procedures ... shall be fair and equitable and shall not be unnecessarily complicated or costly or entail unreasonable time-limits or unwarranted delays." While the stipulation against unwarranted delays could be viewed as prohibiting any stay in proceeding, this prohibition can only be justified if it is believed that the stay is unwarranted. Assuming that the stay is intended to allow litigants to have a brief window to reconsider their behaviour and those reconsideration may result in a private settlement which avoids the need to go to a full trial, a stay of this nature would appear to be warranted. Further in paragraph (2) of Article 3 it is stated that "procedures...shall also be effective, proportionate and dissuasive and shall be applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse." To the extent that a stay would be generally only be ordered when an owner is attempting to abuse the system, this also appears to support the notion of granting judicial authorities with the discretion they need to stay proceedings when that abuse is evident.

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

In terms of providing the discretion to grant injunctive relief when the intellectual property remains a small part of the integrated technological product, it should be recalled that injunction relief can be granted in two different phases of the trial. It can be granted before the trial using a preliminary injunction, or it can be ordered at the conclusion of the trial, as a remedy. The discretion to provide preliminary injunctive relief is covered by Article 9 (1)(a) which states that "Member States shall ensure that the judicial authorities may ... issue an interlocutory injunction intended to prevent any imminent infringement". Nowhere in this article is there a differentiation based on the size of the contribution to the integrated property. The similar level of discretion and lack of differentiation is accorded the judicial authorities with respect the remedy of injunctive relief described in Article 11. The only constraint on this discretion when it comes to small contributions would appear to be included under paragraph 24 of the recitals where it states that; "These corrective measures should take account of the interests of third parties including, in particular, consumers and private parties acting in good faith". To the extent that the discretion to order preliminary or injunctive relief is only required when users are behaving in an abusive manner, this is not readily applicable, as abusive behaviour by users is seldom in anyone's interest but their own. Further even if it did apply judicial authorities have still have the discretion to provide injunctive relief even when it may increase consumer costs and should do so when the integrity of the intellectual property law is at stake.

3) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owners are abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

Precisely the same paragraphs and Articles are relevant to the discussions of judicial authorities' discretion on withholding injunctive relief. Just as with ordering the relief, withholding the relief there is relatively unrestricted. There is however one restriction stipulated under Article 9(1)(a) which is that if injunctive relief is withheld, judicial authorities must ensure that appropriate compensation will eventually be paid to the owner. According to the Article this can be done by ordering guarantees be made by the user, but such guarantees are not compulsory.⁷⁴⁶ All of which means that assuming a judicial authority is confident that the user will be willing and able to pay compensation for unauthorised use they have the discretion to withhold preliminary and injunctive relief. In fact, paragraph 9 of the recitals encourages them to withhold that relief if it is in the best interest of third parties.

⁷⁴⁶Unsurprisingly the question of Member State liability for not ensuring that compensation is eventually paid is not addressed in this Article or anywhere else in the Enforcement Directive. However just because it is not mentioned does not mean that it does not apply. Indeed, every EU directive which provides rights to Member State Citizens empowers those Citizens to protect those rights in the EU courts. (More on this in Chapter 11).

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

Damages is first addressed in paragraph 26 of the recitals with the actual law being stipulated in Articles 12 and 13. All of these components provide at least some degree of discretion to judicial authorities, although there is a caveat which effectively stipulates that those damages should be at least equal to the lowest level of royalties which the intellectual property would be granted through private negotiations. This stipulation does not significantly impact the issue addressed by this question, as the discretion needed to apply the correlated rights doctrine, does not require the ability to set damages below that level. As discussed above, ideally judicial authorities should be able to set damages within a range of rates depending on the behaviour of the litigants, all of which would fall within what can be considered a reasonable royalty rates range. To the extent that the case is brought by an abusive owner, that rates should be at the low end of the reasonable royalty range. If it is brought as the result of an abusive user, it should be at the high end of that range. This discretion to set the rate depending on the behaviour of the litigants providing those litigants with an incentive to avoid abusive behaviour.

Summary of the European Enforcement Directive Compatibility

While the European Enforcement Directive was drafted before the idea of applying the correlated rights doctrine to intellectual property law was conceived, it incorporates many sections which can be considered de facto application of the doctrine. This is not all that surprising as European law is derived from the same principles of equity and justice that the correlative rights doctrine follows and is less dogmatic about historical precedence which are made less relevant by changes in circumstances. Examples of this de facto application of the correlated rights doctrine can be found in the articles relating to injunctive relief and damages. Both of which provide judicial authorities with the discretion to ensure that intellectual property rights are not abused, and owners receive reasonable compensation when infringements are found. If this is not sufficient evidence of a de facto application of the doctrine; included in the initial paragraphs of the Directive is a phrase which provided as succinct summary of its spirit which corresponds directly with the objective of the correlative rights doctrines. That phrase being " The protection of intellectual property should allow the inventor or creator to derive a legitimate profit from his/her invention or creation. It should also allow the widest possible dissemination of works, ideas and new know-how."

10.4 The European Implementation Regulation

This Implementation Regulation⁷⁴⁷ represents the latest iteration of attempt to create a EU patent program which provides an opportunity to be granted single unitary patent with the ultimate ambition of replacing existing Member State patent programs with European wide unitary program. It is relevant to the application of the correlated rights doctrine not only

⁷⁴⁷ REGULATION (EU) No 1257/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection (OJEU L 361, 31.12.2012, pages 1-8)

because it provides details the rights which are to be granted to unitary patents, but because it may ultimately replace the patent rights provided under Member State intellectual property law.

Commentary on Relevant Paragraphs and Articles

'Paragraph (7)

Unitary patent protection should be achieved by attributing unitary effect to European patents in the post-grant phase by virtue of this Regulation and in respect of all the participating Member States. The main feature of a European patent with unitary effect should be its unitary character, i.e. providing uniform protection and having equal effect in all the participating Member States.⁷⁴⁸

While the notion that all unitary patents should provide the same level of protection regardless of the jurisdiction would appear self-evident, this paragraph clearly indicates that this was a concern and it needed to be directly addressed. From a correlated rights' prospective the uniformity of rights is essential, however equally essential is a uniformity of limitation on those rights, which prevents their abuse.

'Paragraph (9)

The European patent with unitary effect should confer on its proprietor the right to prevent any third party from committing acts against which the patent provides protection. This should be ensured through the establishment of a Unified Patent Court.⁷⁴⁹

The fact that Article 9 uses "should" rather than "shall" means that it is a recommendation and not a requirement. As such it has no impact on an application of the correlated rights doctrine.'

'Paragraph (10)

Compulsory licences for European patents with unitary effect should be governed by the laws of the participating Member States as regards their respective territories.⁷⁵⁰

One method of avoiding abusive actions by intellectual property owners it to provide them with a compulsory license when those abuses occur. To the extent that the authority to grant compulsory licenses is entrusted to Member States and cannot be provided on a European wide basis by a central authority, this all but eliminates the possibility that they will be granted uniform basis. This lack of uniform clearly contradicts the intention of a unitary patent, and as such will hinder its development. While is understandable that the Member States do not want to abdicate their authority to grant compulsory licenses, this should not prohibit the possibility to be granted an EU compulsory license. From correlated rights' prospective it would obviously be far better if a user could apply for one compulsory license rather than twenty-eight. Although

⁷⁴⁸ *Id.* Paragraph 7

⁷⁴⁹ *Id.* Paragraph 9

⁷⁵⁰ *Id.* Paragraph 10

it should be recognised any possibility to be granted a compulsory license when an owner is being unreasonable is better than none.

'Paragraph (13)

The regime applicable to damages should be governed by the laws of the participating Member States, in particular the provisions implementing Article 13 of Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights.¹⁷⁵¹

From a correlated rights' prospective the questions about the awarding of damages are perhaps the most important issues that a court must tackle once it has been determined that an infringement has occurred. Under ideal circumstances the court will always award damages within a reasonable royalty range, with the levels being at the higher end of the range when the owners have behaved in a reasonable manner, and at the lower end of the range when they have behaved in an unreasonable manner. To the extent that Article 13 of Directive 2004/48/EC (analysed above) grants Member States the discretion to order damages in a manner consistent with this practice, this paragraph does not prohibit the application of the correlated rights doctrine. However just as with paragraph on compulsory licenses, by entrusting the ordering of damages to the Member States it is inevitable that there will be inconsistencies the awarding of damages across jurisdictions. That said given The Agreement on a Unified Patent (Court 2013/C 175/01) (analysed below) grants the Unified Patent Court the authority to grant EU wide damages for an infringement of a unitary patent, this inconsistency has been rendered redundant.

'Paragraph (15)

In order to promote and facilitate the economic exploitation of an invention protected by a European patent with unitary effect, the proprietor of that patent should be able to offer it to be licensed in return for appropriate consideration. To that end, the patent proprietor should be able to file a statement with the EPO that he is prepared to grant a license in return for appropriate consideration. In that case, the patent proprietor should benefit from a reduction of the renewal fees as from the EPO's receipt of such statement.¹⁷⁵²

Paragraph 15 is clearly intended to provide an incentive for owners of unitary patents to offer open licenses to anyone who desires one. This incentive is entirely consistent with the application of the correlated rights doctrine which requires that all integrated intellectual property should be available for license on reasonable licensing terms.

'Article 3

European patent with unitary effect

1. A European patent granted with the same set of claims in respect of all the participating Member States shall benefit from unitary effect in the participating

⁷⁵¹ *Id.* Paragraph 13

⁷⁵² *Id.* Paragraph 15

Member States provided that its unitary effect has been registered in the Register for unitary patent protection. A European patent granted with different sets of claims for different participating Member States shall not benefit from unitary effect.

2. A European patent with unitary effect shall have a unitary character. It shall provide uniform protection and shall have equal effect in all the participating Member States.

Article 5

Uniform protection

1. The European patent with unitary effect shall confer on its proprietor the right to prevent any third party from committing acts against which that patent provides protection throughout the territories of the participating Member States in which it has unitary effect, subject to applicable limitations.

2. The scope of that right and its limitations shall be uniform in all participating Member States in which the patent has unitary effect.¹⁷⁵³

Assuming that Articles 3 and 5 are enforced, this would presumably mean that the protection and therefore limitation on the protection provided by a patent should be consistent across Member States. It is hard to envisage how this can occur if the level of protection against intellectual property rights abuse, particularly when the authority to grant compulsory licenses and damages is entrusted individual Member States which do not include identical provision in their respective patent laws.

'Article 8

Licences of right

1. The proprietor of a European patent with unitary effect may file a statement with the EPO to the effect that the proprietor is prepared to allow any person to use the invention as a licensee in return for appropriate consideration.¹⁷⁵⁴

Article 8 represents an enactment of the intent to provide an incentive to patent owners to offer an open license, as indicated in Paragraph 15. This enactment is entirely consistent with the application of the correlated rights doctrine.

Answers to Correlated Questions

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

Not covered by this regulation.

⁷⁵³ *Id.* Articles 3, 5

⁷⁵⁴ *Id.* Article 8

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

Not specified by this regulation, but rather left to national courts.

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

Not specified by this regulation, but rather left to national courts.

Summary of the Implementation Regulation Compatibility

While it could be expected that any EU regulation which was intended to create a legal structure for a unified patent system which would be implemented throughout the EU would include a clear definition of the rights provided to patent owners, including limitation on those rights, this regulation does not do so. Further the language of the Regulation which included numerous uses of the word "should" reduces the regulation to little more than a recommendation. The reason for this lack of specificity and stronger claims of authority can be attributed to an unwillingness on the part of the Member States to relinquish their sovereignty in matters related to intellectual property rights, and the unwillingness of the European Patent Organization to recognise the authority of the CJEU. The net result is all the difficult decisions are left with Member state courts, until a Unified Patent Court can be established. While there is little in this regulation which supports the application of the correlated rights doctrine, there is also nothing in it which would prohibit its application.

10.5 The European Unified Patent Court Agreement

This Unified Court Agreement⁷⁵⁵ establishes a Unified Patent Court to adjudicate disputes related to the EU's unified patent program. It is relevant to the application of the correlated rights doctrine because it describes how the rights which are created by the granting of a unitary patent will be protected. Although the volume of the patents granted under the unified program is still relatively small, if the ambition of replacing Member State patent programs with a unitary EU program are realized, the relative importance of this Court will be significantly enhanced.

Commentary on Relevant Paragraphs and Articles

'CONSIDERING that, as any national court, the Unified Patent Court must respect and apply Union law and, in collaboration with the Court of Justice of the European Union as guardian of Union law, ensure its correct application and uniform interpretation; the Unified Patent Court must in particular cooperate with the Court of Justice of the

⁷⁵⁵ Agreement on a Unified Patent Court (2013/C 175/01) (OJ C 175, 20.6.2013, p. 1–40)

European Union in properly interpreting Union law by relying on the latter's case law and by requesting preliminary rulings in accordance with Article 267 TFEU¹⁷⁵⁶

This introductory statement clearly indicates that the Unified Patent Court, is not to be an autonomous legal entity which operates outside European Union Law, but rather a part of the same EU legal hierarchy which operates within EU Law. While this integration might appear obvious, it must be recalled that the European Patent Convention (EPC); which created the European Patent Office (EPO) under the auspices of the European Patent Organization, was an international treaty and not an EU Directive. This indicates that there was a significant reluctance in the relatively autonomous European Patent Office to submit to EU legal authority. This is significant with respect to the application of the correlated rights doctrine because as discussed above EU enforcement directives provide de facto support for the application of the correlated rights doctrine.

'RECALLING the primacy of Union law, which includes the TEU, the TFEU, the Charter of Fundamental Rights of the European Union, the general principles of Union law as developed by the Court of Justice of the European Union, and in particular the right to an effective remedy before a tribunal and a fair and public hearing within a reasonable time by an independent and impartial tribunal, the case law of the Court of Justice of the European Union and secondary Union law.'¹⁷⁵⁷

This introductory statement is relevant because it clearly states that the Charter of Fundamental Rights, represents part of the Union Law which will has primacy over the operations of the Unified Patent Court. This primacy is important because it can be argued that the Charter of Fundamental Rights and Freedoms mandates an application of the correlated rights doctrine as will be discussed in Chapter 11.

'Article 1

Unified Patent Court

A Unified Patent Court for the settlement of disputes relating to European patents and European patents with unitary effect is hereby established.

The Unified Patent Court shall be a court common to the Contracting Member States and thus subject to the same obligations under Union law as any national court of the Contracting Member States.

Article 20

Primacy of and respect for Union law

The Court shall apply Union law in its entirety and shall respect its primacy.

Article 24

Sources of law

⁷⁵⁶ *Id.* Opening Statements

⁷⁵⁷ *Id.*

(1) In full compliance with Article 20, when hearing a case brought before it under this Agreement, the Court shall base its decisions on:

- (a) Union law, including Regulation (EU) No 1257/2012 and Regulation (EU) No 1260/2012¹;
- (b) this Agreement;
- (c) the EPC;
- (d) other international agreements applicable to patents and binding on all the Contracting Member States; and
- (e) national law.¹⁷⁵⁸

These articles are relevant because they validate the introductory statements which indicate that unified patents are subject and subservient to EU Law, including the Charter of Fundamental Rights and Freedoms.

'Article 22

Liability for damage caused by infringements of Union law

(1) The Contracting Member States are jointly and severally liable for damage resulting from an infringement of Union law by the Court of Appeal, in accordance with Union law concerning non-contractual liability of Member States for damage caused by their national courts breaching Union law.

(2) An action for such damages shall be brought against the Contracting Member State where the claimant has its residence or principal place of business or, in the absence of residence or principal place of business, place of business, before the competent authority of that Contracting Member State. Where the claimant does not have its residence, or principal place of business or, in the absence of residence or principal place of business, place of business in a Contracting Member State, the claimant may bring such an action against the Contracting Member State where the Court of Appeal has its seat, before the competent authority of that Contracting Member State.

The competent authority shall apply the *lex fori*, with the exception of its private international law, to all questions not regulated by Union law or by this Agreement. The claimant shall be entitled to obtain the entire amount of damages awarded by the competent authority from the Contracting Member State against which the action was brought.¹⁷⁵⁹

Article 22 provides both owners and users of an integrated intellectual property (which has been granted a unitary patent) an extremely useful tool for ensuring that the courts treat their disputes in a fair and reasonable manner by awarding damages within the reasonable royalty range. If courts award damages which are below a reasonable royalty range, the owner can theoretically sue the contracting state for the difference. Alternatively, if the courts award damages which are substantially above a reasonable royalty range, the infringer can theoretically sue contracting state for that difference.

⁷⁵⁸ *Id.* Articles 1, 20, 24

⁷⁵⁹ *Id.* Article 22

'Article 25

Right to prevent the direct use of the invention

A patent shall confer on its proprietor the right to prevent any third party not having the proprietor's consent from the following:

- (a) making, offering, placing on the market or using a product which is the subject matter of the patent, or importing or storing the product for those purposes;
- (b) using a process which is the subject matter of the patent or, where the third party knows, or should have known, that the use of the process is prohibited without the consent of the patent proprietor, offering the process for use within the territory of the Contracting Member States in which that patent has effect;
- (c) offering, placing on the market, using, or importing or storing for those purposes a product obtained directly by a process which is the subject matter of the patent.

Article 26

Right to prevent the indirect use of the invention

(1) A patent shall confer on its proprietor the right to prevent any third party not having the proprietor's consent from supplying or offering to supply, within the territory of the Contracting Member States in which that patent has effect, any person other than a party entitled to exploit the patented invention, with means, relating to an essential element of that invention, for putting it into effect therein, when the third party knows, or should have known, that those means are suitable and intended for putting that invention into effect.¹⁷⁶⁰

These articles provide a standard description of the exclusive rights which are provided to an intellectual property when it is patented. If these Articles are not somehow limited by other Articles they would provide owners with an absolute right, which would be immune from the application of the correlated rights doctrine. Those limitations are described below.

'Article 32

Competence of the Court

(1) The Court shall have exclusive competence in respect of:

- (a) actions for actual or threatened infringements of patents and supplementary protection certificates and related defences, including counterclaims concerning licences;
- (b) actions for declarations of non-infringement of patents and supplementary protection certificates;
- (c) actions for provisional and protective measures and injunctions;
- (d) actions for revocation of patents and for declaration of invalidity of supplementary protection certificates;
- (e) counterclaims for revocation of patents and for declaration of invalidity of supplementary protection certificates;

⁷⁶⁰ *Id.* Articles 25-26

- (f) actions for damages or compensation derived from the provisional protection conferred by a published European patent application;
- (g) actions relating to the use of the invention prior to the granting of the patent or to the right based on prior use of the invention;
- (h) actions for compensation for licences on the basis of Article 8 of Regulation (EU) No 1257/2012;⁷⁶¹

Article 32 is relevant to the application of the correlated rights doctrine because it defines the remedies which the court can impose as a result of an infringement. These include; injunctive relief, (Article 32c), damages (Article 32f), and setting compensation rates for a voluntary open license contract, (Article 32h). Noticeable by its absence is the authority to issue compulsory licenses to users when an owner is unreasonable in their licensing demands. As was discussed in the analysis of Regulation (EU) 1257/2012 (provided above) this authority is reserved for Member State courts.

'Article 42

Proportionality and fairness

- (1) The Court shall deal with litigation in ways which are proportionate to the importance and complexity thereof.
- (2) The Court shall ensure that the rules, procedures and remedies provided for in this Agreement and in the Statute are used in a fair and equitable manner and do not distort competition.⁷⁶²

While Article 32 provides the court with the authority to impose various remedies, it does not provide any guidance on how that authority is to be used. As such Article 42 perhaps best represents the approach that the courts are expected to take when dealing with unitary patent disputes. Significantly this article states that court "shall ensure" not "should ensure" that the remedies provided for in this Agreement and in the Statute; "are used in a fair and equitable manner and do not distort competition". The use of "shall" and not "should" places much more of a burden on the courts comply with the terms included in the Article. Just as significant as the use of "shall" are the terms which need to be applied when constructing remedies. The requirement that the remedies be "fair and equitable" representing the principle justification for applying the correlative rights doctrine to integrated intellectual properties. Indeed, to the extent that it is practically impossible for a court to construct "fair and equitable" remedies without using some measure of value which is proportional to the intellectual properties' contribution to the integrated technology, this Article could have just easily incorporated a requirement to apply the correlated rights doctrine when they are involved.

'Article 61

Freezing orders

- (1) At the request of the applicant which has presented reasonably available evidence to support the claim that the patent has been infringed or is about to be infringed the

⁷⁶¹ *Id.* Article 32

⁷⁶² *Id.* Article 42

Court may, even before the commencement of proceedings on the merits of the case, order a party not to remove from its jurisdiction any assets located therein, or not to deal in any assets, whether located within its jurisdiction or not.

Article 62

Provisional and protective measures

(1) The Court may, by way of order, grant injunctions against an alleged infringer or against an intermediary whose services are used by the alleged infringer, intended to prevent any imminent infringement, to prohibit, on a provisional basis and subject, where appropriate, to a recurring penalty payment, the continuation of the alleged infringement or to make such continuation subject to the lodging of guarantees intended to ensure the compensation of the right holder.

(2) The Court shall have the discretion to weigh up the interests of the parties and in particular to take into account the potential harm for either of the parties resulting from the granting or the refusal of the injunction.

(3) The Court may also order the seizure or delivery up of the products suspected of infringing a patent so as to prevent their entry into, or movement, within the channels of commerce. If the applicant demonstrates circumstances likely to endanger the recovery of damages, the Court may order the precautionary seizure of the movable and immovable property of the alleged infringer, including the blocking of the bank accounts and of other assets of the alleged infringer.

Article 63

Permanent injunctions

(1) Where a decision is taken finding an infringement of a patent, the Court may grant an injunction against the infringer aimed at prohibiting the continuation of the infringement. The Court may also grant such injunction against an intermediary whose services are being used by a third party to infringe a patent.

(2) Where appropriate, non-compliance with the injunction referred to in paragraph 1 shall be subject to a recurring penalty payment payable to the Court.⁷⁶³

All three of these articles relate to some form of injunctive relief. Articles 61 and 62 representing something akin to preliminary injunctive relief, with Article 63 representing injunctive relief as a remedy ordered in resolution of the dispute. One of the most noteworthy aspect of each of these Articles is that in each uses the word "may" rather than "shall", which means that all of them provide the courts with discretion to decide whether such relief should be granted. The fact that the court can withhold injunctive, even relief when infringement has been proven; is supportive of the application of the correlated rights doctrine, because it means that the court is allowed to differentiate between a pirate and a commercial royalty rate dispute. Obviously while it would be appropriate to provide injunctive relief against infringers who can be described as pirates, the same cannot for an integrated technology manufacturer who is in royalty dispute with an unreasonable owner. This would appear to be precisely the sort of considerations which Article 62(2) is designed to address. While it may be in the interest of the

⁷⁶³ *Id.* Articles 61-63

owners to coerce manufacturers of an integrated technological product into paying excessive royalty rates for their contribution, the interest of the manufacturers to be able to pay a reasonable price for the use of an integrated property, outweighs that interest. Alternatively, while it may be in the interest of manufacturers to pay a trivial amount for the use of an integrated intellectual properties, that interest is outweighed by owner's interest in receiving in a reason return on the value that his property contributes to the integrated technological product. It should be noted, that these interests can be juxtaposed both on an aggregate and individual basis, and there is nothing in these articles which would prevent the granting or withholding of injunctive relief based upon the size of the contribution to the integrated intellectual properties which are required for the technological product.

Article 64

Corrective measures in infringement proceedings

(1) Without prejudice to any damages due to the injured party by reason of the infringement, and without compensation of any sort, the Court may order, at the request of the applicant, that appropriate measures be taken with regard to products found to be infringing a patent and, in appropriate cases, with regard to materials and implements principally used in the creation or manufacture of those products.

(2) Such measures shall include: (a) a declaration of infringement; (b) recalling the products from the channels of commerce; (c) depriving the product of its infringing property; (d) definitively removing the products from the channels of commerce; or (e) the destruction of the products and/or of the materials and implements concerned.

UPC/en 68

(3) The Court shall order that those measures be carried out at the expense of the infringer, unless particular reasons are invoked for not doing so.

(4) In considering a request for corrective measures pursuant to this Article, the Court shall take into account the need for proportionality between the seriousness of the infringement and the remedies to be ordered, the willingness of the infringer to convert the materials into a non-infringing state, as well as the interests of third parties.⁷⁶⁴

While this Article includes five measures which may be ordered by the court, the use of the word "may" means that it is not significantly different from Articles 61-63 when it comes to injunctive relief. If anything, the invocation that the court should act "proportionally" and take into consideration the "interest of the "interests of third parties", enhances the notion that when dealing with integrated intellectual property the court should apply the correlated rights doctrine.

Article 68

Award of damages

⁷⁶⁴ *Id.* Article 64

- (1) The Court shall, at the request of the injured party, order the infringer who knowingly, or with reasonable grounds to know, engaged in a patent infringing activity, to pay the injured party damages appropriate to the harm actually suffered by that party as a result of the infringement.
- (2) The injured party shall, to the extent possible, be placed in the position it would have been in if no infringement had taken place. The infringer shall not benefit from the infringement. However, damages shall not be punitive.
- (3) When the Court sets the damages:
 - (a) it shall take into account all appropriate aspects, such as the negative economic consequences, including lost profits, which the injured party has suffered, any unfair profits made by the infringer and, in appropriate cases, elements other than economic factors, such as the moral prejudice caused to the injured party by the infringement; or
 - (b) as an alternative to point (a), it may, in appropriate cases, set the damages as a lump sum on the basis of elements such as at least the amount of the royalties or fees which would have been due if the infringer had requested authorisation to use the patent in question.
- (4) Where the infringer did not knowingly, or with reasonable grounds to know, engage in the infringing activity, the Court may order the recovery of profits or the payment of compensation.⁷⁶⁵

From a correlated rights' prospective the questions about the awarding of damages are perhaps the most important issues that a court has to tackle once it has been determined that an infringement has occurred. Under ideal circumstances the court will always award damages within a reasonable royalty range, with the levels being at the higher end of the range when the owner has behaved in a reasonable manner, and at the lower end of the range when they have behaved in an unreasonable manner. As it is possible under the instructions provided in Article 68 facilitates this kind of outcome, it must be considered supportive of the application of the correlated rights doctrine. The requirement that the court order damages can be found in the paragraph (1) of the article where it states that the court "shall, at the request of the injured party, order the infringer who knowingly, or with reasonable grounds to know, engaged in a patent infringing activity, to pay". Only in the case of a where the infringer did not know they were infringing, does the court have any discretion as to not ordering damages. It should be pointed out that while the intent of this subsection of the article is to protect unwitting infringers from facing charges for their accidental infringement, it has the unintended consequence of encouraging wilful ignorance and increasing the possibilities of legal attrition. It increases wilful ignorance because it rewards ignorance and it facilitates legal attrition because it allows infringers to claim ignorance. The requirement that damages stay within a reasonable royalty range is evident in the fact that the Article states that damages "shall" cover "harm actually suffered" and "shall not be punitive". The discretion to set damages at the higher end of the range is provided by paragraph 3(3) of the Article. This because every owner that offers a license to their integrated intellectual property on at rates within the reasonable royalty range must be considered reasonable, even if that royalty is at the high end of that range. Presumably if the

⁷⁶⁵ *Id.* Article 68

court views the owner as a reasonable and willing licensor, they should set damages according to that paragraph. Alternatively, if the owner of an integrated intellectual property is either an unwilling licensor or demands a rate which is higher than the reasonable royalty range the court can set damages according to paragraph 3(a), which rather than focusing exclusively on the impact on the owner, also takes into consideration the "unfair profits" made by the infringer. Assuming that the reasonable royalty range, represents a subjective range of the value which the integrated intellectual property provides to the integrated technological product, this value must also represent a subjective range of the unfair profits made by the infringer, well as the actual harm suffered by the owner. Further assuming a court determines that the only reason why the case has come to court is because the owner has been demanded excessive royalties, it would appear entirely inappropriate to not reward that behaviour by setting royalties at the high end of the range. Rather they should set it at the low end of the range which would not only punish the owner's unreasonable behaviour but provide a disincentive to other owners considering behaving in the same manner. In either case so long as the court sets the rate within the reasonable royalty range they would be in compliance with the directions provided in the Article.

ARTICLE 79

Settlement

The parties may, at any time in the course of proceedings, conclude their case by way of settlement, which shall be confirmed by a decision of the Court. A patent may not be revoked or limited by way of settlement.¹⁷⁶⁶

Article 79 is relevant only in so far as it helps to answer the question about whether the court can encourage a settlement by staying the case.

Answers to Correlated Questions

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

According to Articles 61-63 the court is granted the discretion to decide whether various forms of injunctive relief should be ordered. As there are no limitation placed upon that authorization which would prevent them from ordering injunctive relief, this would tend to suggest that they can order it even when the infringed intellectual property represents a small contribution the technological product, even when the owner is a non-practicing entity.

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to

⁷⁶⁶ *Id.* Article 79

pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

According to Articles 61-63 the court is granted the discretion to decide whether various forms of injunctive relief should be ordered. As there are no limitation placed upon that authorization which would prevent them from withholding injunctive relief, this would tend to suggest that they can withhold the relief when they find that intellectual property owners are abusing their rights. Assuming that the court withholds injunctive relief even when an infringement is found, the question then becomes one of determining the ongoing damages which are required to be paid for an ongoing infringement.

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

Article 68 both requires the court to pay damages and sets the range of damages that the court can order to be paid at a level which can be described as falling within the reasonable royalty range. It also provides the court with the discretion to order damages within that range, which means that damages can be set at different levels depending on the reasonableness of both the owner and user. In a case where the court withholds injunctive relief the infringer obviously would be a knowledgeable of the infringement, so the same rules would apply.

Summary of the Unified Court Agreement Compatibility

There is nothing in this agreement which would prevent the application of the correlated rights doctrine. In all of the matters central to its application the court has sufficient discretion to ensure the rights provided under a unified patent are both protected and protected from abuse. Further the agreement clearly incorporates a spirit of equity and reasonableness which can only be achieved through the application of the doctrine. Even more important than spirit, is the recognition of the primacy of EU Law, including the Charter of Fundamental Rights and Freedoms which arguably mandate the application of a de facto correlated rights treatment, if not the doctrine itself.

10.6 The German Patent Act

Germany's Patent Act⁷⁶⁷ was selected for analysis because it is the principle law which protects new innovations in Germany. Included in it is the requirements for patentability, the legal proceedings for determining infringement and the remedies available when infringement is found. In its 36-year history it has been amended many times, including the 2013 amendments which brought the law into conformity with the EU Enforcement Directive. Like in most countries, this law was initially drafted at a time when standalone intellectual property was the primary type of intellectual property being protected. While the remnants of objective are still visible it is clear that there have been significant efforts to modify this law because of the

⁷⁶⁷ German Patent Act as published on 16 December 1980 (Federal Law Gazette 1981 I p. 1), as last amended by Article 1 of the Act of 19 October 2013 (Federal Law Gazette I p. 3830), English Translation from WIPO website: <http://www.wipo.int/wipolex/en/details.jsp?id=14067>

increases in integrated technologies which have contributions from multiple intellectual property owners.

Commentary on Relevant Sections

'§9 The patent shall have the effect that the proprietor of the patent alone shall be entitled to use the patented invention within the scope of the law in force. In the absence of the consent of the proprietor of the patent, any third party shall be prohibited from

1. producing, offering, putting on the market or using a product which is the subject-matter of the patent, or from either importing or possessing such a product for the purposes referred to;
2. using a process which is the subject-matter of the patent or, if the third party knows or if it is obvious from the circumstances that use of the process is prohibited in the absence of the consent of the proprietor of the patent, from offering the process for use within the territorial scope of this Act;
3. offering, placing on the market or using a product which is produced directly by a process which is the subject-matter of the patent, or from either importing or possessing such a product for the purposes referred to.⁷⁶⁸

Section 9 represents a standard initial declaration of the exclusive rights provided to innovators who are granted protection under patent law and a prohibition of their unauthorised use by others. The nature of the right being drawn from the initial exclusive rights which were the foundations of intellectual property law. However, these rights are seldom as unrestricted as initially presented as later sections will generally curtail the absolute nature of the initial declaration. If these exclusive rights are not restricted in subsequent sections, the correlative rights doctrine cannot be applied.

'§23 (1) Where a patent applicant or the person entered in the Register as the proprietor of the patent (section 30 (1)) declares to the German Patent and Trade Mark Office in writing that he is willing to allow anyone to use the invention in return for equitable remuneration, the annual renewal fees due in respect of the patent following receipt of the declaration shall be reduced to one half. The declaration shall be recorded in the Register and published in the Patent Gazette (Patentblatt).

(2) The declaration shall be inadmissible as long as there is an entry in the Register regarding the grant of an exclusive licence (section 30 (4)) or an application is pending before the German Patent and Trade Mark Office for such entry to be made.

(3) Any person who, subsequent to the declaration being entered, wishes to use the invention shall inform the proprietor of the patent of his intention. The information shall be deemed to have been effected if it has been dispatched by registered letter to the person entered in the Register as the proprietor of the patent or to his registered representative or the person authorised to accept service (section 25). The information shall indicate how the invention is to be used. Subsequent to the information, the informing party shall be entitled to effect use in the manner he has indicated. He shall

⁷⁶⁸ *Id.* Section 9

be obliged, after the expiry of each calendar quarter, to inform the proprietor of the patent of the use effected and to pay the remuneration for that use. If he does not fulfil this obligation in due time, the person registered as proprietor of the patent may set him a reasonable extension of time for payment and, following expiry without the obligation being fulfilled, may prohibit further use of the invention.

(4) The remuneration shall be fixed by the Patent Division upon the written request of a party. Sections 46, 47 and 62 shall apply *mutatis mutandis* to the procedure. The request may be directed against more than one party. When fixing the amount of the remuneration the German Patent and Trade Mark Office may make an order requiring the party opposing the request to bear the costs of the procedure in whole or in part.

(5) After the expiry of a period of one year following the last fixing of remuneration, any party affected thereby may apply for its adjustment if in the meantime circumstances have arisen or become known which make the remuneration fixed appear obviously inappropriate. In other respects, subsection (4) shall apply *mutatis mutandis*.

(6) Where the declaration is made in respect of an application, the provisions of subsections (1) to (5) shall apply *mutatis mutandis*.

(7) The declaration may be withdrawn in writing *vis-à-vis* the German Patent and Trade Mark Office at any time, as long as the proprietor of the patent has not been informed of any intention to use the invention. The withdrawal shall take effect when it is filed. The sum by which the annual renewal fees have been reduced shall be paid within one month of the withdrawal of the declaration. If the difference is not paid within the time limit specified in the third sentence, it may still be paid together with the surcharge for late payment before the expiry of a period of a further four months.¹⁷⁶⁹

Section 23 can be described as a section intended to incentivise arbitrated licensing negotiation of intellectual property rights. Under this clause the government provides owners with a 50% reduction in their annual renewal fees, in return for the owner making a registered commitment to offer licenses at reasonable rates to all potential users. The clear idea being that those owners who want to license their property will take advantage of this discount to both lower their costs and advertise their willingness to license. Presumably this registered commitment will encourage potential users to notify owners of the intended use of their property so that the owners can bill them for that use. This section becomes an arbitration mechanism because if the user does not except that the owner's rates are reasonable they can request that the Patent Division fix the remuneration.

From a correlated rights' prospective this section provides both the owner and the user the opportunity to declare that they are willing licensor and licensee respectively. It also provides for a system to resolve any licensing disputes which may occur. Assuming that this dispute resolution is done in a fair and equitable manner there can be little question that process results in the same outcome as would happen under an application of the correlated rights doctrine. The primary problem which may arise as a result of this process is that it may force owners to eventually license abusive users who engage in legal attrition at the same rate that they who engage in good faith licensing negotiations. Obviously that problem would be avoided if the

⁷⁶⁹ *Id.* Section 23

Patent Division has the discretion of fix rates anywhere within the reasonable royalty range depending on the behaviour of the user.

'§24 (1) The non-exclusive authorisation to commercially use an invention shall be granted by the Federal Patent Court in an individual case in accordance with the following provisions (compulsory licence) where

1.a licence seeker has, within a reasonable period of time, unsuccessfully attempted to obtain permission from the proprietor of the patent to use the invention on reasonable commercial terms and conditions, and

2.the public interest calls for the grant of a compulsory licence.

(2) Where a licence seeker cannot exploit an invention for which he holds protection under a patent with a later filing or priority date without infringing a patent with an earlier filing or priority date, he shall be entitled, in respect of the proprietor of the patent with the earlier filing or priority date, to the grant of a compulsory licence from the proprietor of the patent if

1.the condition under subsection (1) no. 1 is fulfilled, and

2.his own invention demonstrates an important technological advance of substantial economic significance compared to that of the patent with the earlier filing or priority date.

The proprietor of the patent can require the licence seeker to grant him a cross-licence on reasonable terms and conditions for the use of the patented invention with the later filing or priority date.

(3) Subsection (2) shall apply mutatis mutandis where a plant breeder cannot obtain or exploit a plant variety right without infringing an earlier patent.

(4) A compulsory licence under subsection (1) may be granted for a patented invention in the field of semiconductor technology only where this is necessary to eliminate those anti-competitive practices pursued by the proprietor of the patent which have been established in court or administrative proceedings.

(5) Where the proprietor of the patent does not apply the patented invention in Germany or does not do so predominantly, compulsory licences in accordance with subsection (1) may be granted to ensure an adequate supply of the patented product on the German market. Import shall thus be equivalent to the use of the patent in Germany.

(6) The grant of a compulsory licence in respect of a patent shall be admissible only after the patent has been granted. The compulsory licence may be granted subject to limitations and made dependent on conditions. The extent and the duration of use shall be limited to the purpose for which the compulsory licence was granted. The proprietor of the patent shall be entitled to remuneration from the proprietor of the compulsory licence, such remuneration being equitable in the circumstances of the case and taking into account the economic value of the compulsory licence. Where, in relation to recurrent remuneration payments due in the future, there is a substantial change in the circumstances which governed the fixing of the amount of remuneration, each party shall be entitled to require a corresponding adjustment. Where the circumstances upon which the grant of a compulsory licence was based no longer apply

and if their recurrence is improbable, the proprietor of the patent can require withdrawal of the compulsory licence.

(7) A compulsory licence in respect of a patent may be transferred only together with the business which is involved in exploiting the invention. A compulsory licence in respect of an invention which is the subject-matter of a patent with an earlier filing or priority date may be transferred only together with the patent with a later filing or priority date.¹⁷⁷⁰

While the compulsory licensing opportunities in Section 24 are not a direct result of the application of the correlated doctrine, there can be no doubt that they are a legislative embodiment of it. The section embodies the doctrine because it provides integrated owners/users with the right to a compulsory licence they have "within a reasonable period of time, unsuccessfully attempted to obtain permission from the proprietor of the patent to use the invention on reasonable commercial terms and conditions" and "the public interest calls for the grant of a compulsory licence". It should be noted that the second condition can be readily overcome by the simple deduction that public interest requires that complex technological products be available in the German market and not excluded because of an injunction granted on a small contribution to the intellectual property integrated into that technology. Presuming the second conditionality is met, this means the principal circumstances under which a compulsory licensee would be granted would be; when an owner is abusing his rights to coerce users into accepting unreasonable licensing demands. It is precisely this sort of situation which the correlative rights doctrine seeks to address and to the extent that the compulsory licence does address it, there can be no doubt that the two are interwoven. In fact, it may merely be the case that as the doctrine underlying the pragmatic expansion of compulsory licence practices has yet to be identified, but if identification were sought, it will result in identifying the correlated rights doctrine.

'Revocation and compulsory licence proceedings

§81 (1) Proceedings for revocation of the patent or invalidity of the supplementary protection certificate, or on account of the grant or withdrawal of the compulsory licence, or on account of the adjustment of the remuneration for a compulsory licence determined by court judgment shall be initiated by filing an action. The action shall be directed against the proprietor of the patent entered in the Register or against the holder of the compulsory licence. An action against the supplementary protection certificate may be consolidated with an action against the patent on which it is based and may also be based on the fact that there is a ground for revocation (section 22) of the patent on which it is based. ...

(6) Claimants whose habitual residence is not in a Member State of the European Union or a Contracting Party to the Agreement on the European Economic Area shall, at the request of the defendant, provide security in respect of the costs of the proceedings; section 110 (2) nos 1 to 3 of the Code of Civil Procedure shall apply *mutatis mutandis*. The Federal Patent Court shall determine the amount of the security

⁷⁷⁰ *Id.* Section 24

at its reasonable discretion and shall determine a time limit within which it is to be paid. If the time limit is not observed, the action shall be deemed to be withdrawn.⁷⁷¹

This section describes the mechanism which makes compulsory licenses a reality. It is included in order to emphasize that this method of applying this correlative rights doctrine is universally available to all intellectual property users, regardless of their nationality.

'Legal infringements

§ 139 (1) Any person who uses a patented invention contrary to sections 9 to 13 may, in the event of the risk of recurrent infringement, be sued by the aggrieved party for cessation and desistance. This right may also be asserted in the event of the risk of a first-time infringement.

(2) Any person who performs the act intentionally or negligently shall be obliged to compensate the aggrieved party for the damage caused. When assessing the compensation, consideration may also be given to the profit which the infringer has obtained by infringing the right. The claim for compensation may also be calculated on the basis of the amount which the infringer would have been required to pay as equitable remuneration if he had obtained permission to use the invention.⁷⁷²

Section 139 covers both an owner's right to injunctive relief and their right to damages which result from an infringement of their intellectual property. In the first paragraph it is clearly stated that owners can ask the courts to issue cease and desist orders against users and/or potential users. What it omitted from this section is a paragraph which provides discretion to the courts to decide whether injunctive relief should be provided or whether the courts must automatically issue those orders if an infringement is found or likely to be committed. This therefore leaves open the question of judicial discretion as to the provision of injunctive relief. To answer that question of whether the courts have discretion in this matter it may be necessary to return to the Section 9 which creates a prohibition against any unauthorised use. As mentioned when analysing that section, if there is nothing in the later parts of the act which restrict or otherwise limit this prohibition it must be interpreted as being absolute. The consequence of this absolute prohibition on unauthorised use are however mitigated by the possibility of being granted a compulsory license, which would authorize the use.

While the judicial discretion on injunctive relief might be subject to interpretation, there is no such requirement when it comes to damages. This is because paragraph two states that all users "*shall* be obliged to pay". rather than all users "*may* be obliged to pay". It is the use of "*shall*", which this creates an unequivocal requirement that the courts ensure that owners are compensated for their damages. The court's only discretion in this matter is the method and level of damages which they order to be paid. But even this discretion is limited by a requirement that the damages reflect either the profit earned by the infringer or the royalty which would otherwise be charged by the owner. To the extent that this requirement falls within the range of reasonable royalty rates it would obviously be compatible with an application of the correlated rights doctrine.

⁷⁷¹ *Id.* Section 81

⁷⁷² *Id.* Section 139

'§140a (1) Any person who uses a patented invention contrary to sections 9 to 13 may be sued by the aggrieved party for destruction of products held or owned by the infringer which are the subject-matter of the patent. The first sentence shall also apply in the case of products which have been produced directly by means of a process which is the subject-matter of the patent.

(2) Subsection (1) shall apply *mutatis mutandis* to materials and implements which are owned by the infringer and were predominantly used for manufacturing these products.

(3) Any person who uses a patented invention contrary to sections 9 to 13 may be sued by the aggrieved party for recall of the products which are the subject-matter of the patent or for definitive removal of the products from the channels of commerce. The first sentence shall also apply in the case of products which have been produced directly by means of a process which is the subject-matter of the patent.

(4) The claims under subsections (1) to (3) shall be ruled out if such a claim is disproportionate in an individual case. When examining proportionality consideration shall also be given to the legitimate interests of third parties.¹⁷⁷³

Section 140a does not provide for an absolute right to sue for the destruction of infringing products and manufacturing processes because paragraph 4 limits that right if it is considered to be disproportionate, with particular consideration being given the "legitimate interest of third parties". It is worth noting that there is no such paragraph in Section 139 which deals with injunctive relief and damages. To the extent that courts have discretion in this matter, it is compatible with the application of the correlated rights doctrine. More significantly the fact that an integrated technology manufacturer can apply for a compulsory licence renders this section at least partially redundant. That said; when unauthorised users of integrated technologies are unwilling to engage in good faith negotiation or do not bother to apply for a compulsory licence when those negotiations fail, this section would certainly become applicable.

'§142 (1) Any person acting without the requisite consent of the proprietor of the patent or of a supplementary protection certificate (sections 16a and 49a) who

1.manufactures or offers, places on the market, uses a product which is the subject-matter of the patent or of the supplementary protection certificate (section 9, second sentence, no. 1) or either imports or holds the product for one of the purposes mentioned, or

2.uses or offers for use within the territorial scope of this Act a process which is the subject-matter of the patent or of the relevant protection certificate (section 9, second sentence, no. 2) shall be liable to imprisonment for no more than three years or a fine.

The first sentence, no. 1, shall also apply to the case of a product which has been manufactured directly by a process which is the subject-matter of the patent or of the supplementary protection certificate (section 9, second sentence, no. 3).

(2) Where the offender acts on a commercial scale, the penalty shall be imprisonment for up to five years or a fine.

(3) An attempt shall be punishable.

⁷⁷³ *Id.* Section 140a

(4) In the cases referred to in subsection (1), the offence shall be prosecuted upon motion only, unless the criminal prosecution authorities consider ex officio intervention imperative on account of the particular public interest in criminal prosecution.

(5) Objects to which the criminal offence relates may be confiscated. Section 74a of the Criminal Code shall apply. Where the claims referred to in section 140a are upheld in proceedings pursuant to the provisions of the Code of Criminal Procedure (Strafprozessordnung) governing compensation for the aggrieved person (sections 403 to 406c), the provisions on confiscation shall not apply.

(6) Where a penalty is imposed, an order shall be made upon motion by the aggrieved party and upon demonstration of a legitimate interest to the effect that the conviction be made public upon demand. The nature of the publication shall be laid down in the judgment.¹⁷⁷⁴

Section 142 addresses the criminal consequences which can flow from the unauthorized use of patented intellectual property. According to this section unauthorized users can be imprisoned for up to five years when that use is on a commercial scale, which it always would be whenever integrated technological products are involved. While it can be assumed that this section is intended to act as a deterrent to traditional counterfeiting and piracy and not as a punishment for willing licensees who refuse to be coerced into accepting by unreasonable licensing demands, it may still be applicable to integrated technology disputes. If for example manufacturers pretend to be willing licensees but refuse to engage in good faith negotiations and are not willing to apply for a compulsory license should those good faith negotiations fail, what makes them any different than a pirate? Assuming this section is only applicable when unauthorized users show a clear effort to take advantage of the legal option available to gain authorized use, this rather draconic penalty remains compatible with the application of correlated rights doctrine.

Answers to the Correlated Rights Questions

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorized users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

Using a strict analysis and according to the wording in §9 the answer to this question would be yes. An answer which is supported by responses to questions about the current interpretations of German IP law.⁷⁷⁵ These responses indicate that under current law a German

⁷⁷⁴ *Id.* Section 142

⁷⁷⁵ Klaus Haft, Dr. Ralph Nack, Dr. Anja Lunze LL.M., Dr. ClemensAugust Heusch, Dr. Stefan Schohe, Björn Joachim Germany: *Injunctions in cases of infringement*, AIPPI Study Question Response (2011) available at: http://aippi.org/wp-content/uploads/committees/219/GR219germany_en.pdf (herein after; *AIPPA Injunction Survey Germany (2011)*); and Wolfgang Kellenter and Hengeler Mueller, *Germany*, in *Patent Litigation Jurisdictional Comparisons 2012*, 2nd ed. (Thompson Reuters, 2011) (herein after; *Patent Litigation: Germany, (2012)*)

Court view intellectual property rights as absolute⁷⁷⁶ and will grant almost automatic injunction relief whenever an infringement is found.⁷⁷⁷ Neither the strict reading of the law nor this interpretation in any way suggests that such relief cannot be provided when the intellectual property represents a small contribution to an integrated technological product. Nor do they suggest that a non-participating intellectual property owner would be prohibited from being granted relief. However, despite this legislative wording and its interpretations, it appears that the courts do have the discretion to withhold injunctive under exceptional circumstances. And one of those exceptional circumstances appears to be when the intellectual property owner is a non-practicing entity.⁷⁷⁸ Obviously if being an owner is prevented from being granted relief merely because they are a non-practicing entity, this would also prevent the application of the correlated rights doctrine, as the doctrine does not allow for discrimination between owners. However, it may be that this discrimination does not flow from German patent law but rather from an application of competition law.⁷⁷⁹

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

Under the German patent law a user can petition the courts to withhold injunctive relief whenever an intellectual property owner is using their intellectual property rights in a way which is against the principles of equity and good faith.⁷⁸⁰ However, according to a strict reading of the law the primary method for dealing with abusive owners in the requires the user to seek a

⁷⁷⁶ AIPPA Injunction Survey Germany (2011) "according to the statutory law, an IPR conveys an absolute right to its owner, "absolute" meaning that he or she is free to exclude any other person from using the right and that he or she is free whether to use it on its own or not. This is explicitly stated for "normal" property rights in Sec. 903 para 1 German Civil Code, but is applied accordingly on intellectual property rights." at 4.

⁷⁷⁷ See e.g.; AIPPA Injunction Survey Germany (2011). "If the court decision in proceedings on the merits granting an injunction is a first instance decision by a Regional Court ("Landgericht") only, the injunction will only be provisionally enforceable ("vorläufig vollstreckbar") on condition that plaintiff provides sufficient security for damages in case the decision will be revoked in second instance. They become permanent injunctions if the first instance decision becomes legally binding, i.e. for example if it is not appealed or if appeal is withdrawn or if it is upheld." at 1, "if infringement is found and the case is not stayed e.g. pending a nullity or cancellation action, injunctions are issued for all IPRs." at 3; *Patent Litigation: Germany, (2012)* "The patent holder is entitled to the following relief against a patent infringer: final injunction to cease and desist from committing infringing acts" at 146.

⁷⁷⁸ AIPPA Injunction Survey Germany (2011) "In proceedings on the merits, injunctive relief must be granted if the IPR is found infringed and if there is no exceptional ground justifying the infringement such as right of prior use etc." at 4; "specific considerations relevant to particular IP holders might only be applied if the court has any discretion in its judgment, for example in the course of preliminary injunction proceedings or when deciding on an exceptional stay of provisional enforcement. The Higher Regional Court Karlsruhe stayed in some cases the provisional enforcement of a first instance patent infringement decision by taking into consideration that the IPR owner is not active on the relevant market of mobile phones anymore" at 4;

⁷⁷⁹ Astrid Buhrow and Jan Bernd Nordemann, *Germany: Limitations on exclusive IP Rights by Competition Law*, AIPPI Study Question Response (2014) available at: http://aippi.org/wp-content/uploads/committees/187/GR187germany_english.pdf (herein after; *AIPPA Competition Limitations Survey Germany (2011)*) "the compulsory license is necessary to remedy a practice which was previously declared to be anti-competitive by a court or an administrative authority. The infringement of antitrust rules therefore is a further requirement, but not dealt with in depth in § 24 sec. 3 PatG" at 1

⁷⁸⁰ *Patent Litigation: Germany, (2012)* "a patent can be deemed unenforceable if, owing to misconduct by the patent holder, the enforcement of the patent would be against the principles of equity and good faith" at 136

compulsory license § 36.⁷⁸¹ Although compulsory licensing is the anticipated solution to this problem under German patent law, recent precedents appear to favour solving this problem by applying competition law to intellectual property disputes.⁷⁸² The reason why competition law has taken over as the primary method of dealing with intellectual property owners who abuse their rights can be directly attributed to the complexity and difficulty of being granted a compulsory license.⁷⁸³

In effect the need to apply competition law to intellectual property disputes indicates a deficiency with respect to the patent law in this matter. A deficiency which apparently was not able to be addressed by a reliance on the principles of equity and good faith. Although the application of competition law to avoid injunctive relief is not ideal, it does at least indicate that German courts have the ability/discretion to withhold injunctive relief. The only real issue being the justification for withholding that relief.

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

According to § 139, intellectual property owners can choose between three methods for assessing damages for past infringement; actual loss, reasonable royalty and infringer's profits.⁷⁸⁴ Regardless of the method chosen, the courts have a degree of discretion in terms of determining the actual rate which will be applied. With respect to rates for ongoing unauthorised use it has to be presumed that although courts do not appear to have the

⁷⁸¹ *AIPPA Competition Limitations Survey Germany (2011)* "Since 1911, the German patent law has got provisions for compulsory licenses which are granted by the competent courts. The version of § 24 PatG that was in force until TRIPs was implemented allowed the granting of compulsory licenses to private parties whenever the public interest required to do so, provided that the patent holder refuses to permit the use of the patent for an adequate remuneration and security...

⁷⁸² *Patent Litigation: Germany, (2012)* "the German Federal Court of Justice held in 2004 (GRUR 2004, 966 - Standard Spundfass) that the defendant to an infringement action may be able to successfully defend against a claim for damages for patent infringement if the suing patent holder has refused to grant a license under the patent in suit in violation of applicable antitrust provisions. However, due to the particularities of the case, the court did not have to decide on further details and a number of questions remained open until the *Orange-Book-Standards* decision by the same court in 2009. (GRUR 2009, 801). This is an important case pertaining to standard essential patents, the Federal Court of Justice generally confirmed its earlier *Standard-Spundfass* decision and clarified that an antitrust defence may, in general, also apply against claims for cease and desist injunction" at 134.

⁷⁸³ *Id.* "It is difficult to evaluate the practical importance of § 24 PatG. According to the Bundespatentgericht (Federal Patent Court), which is in first instance competent for the granting of compulsory licenses, there were 295 applications between 1923 and 1943, out of which 23 were successful, 37 applications and no grant between 1950 and 1979 and 12 applications and 1 grant between 1961 and 2003, the later being revoked by the Bundesgerichtshof in the decision mentioned above. Reasons for the few proceedings might be the high standards for the public interest, the risk to bear the costs of the proceedings, or the lacking possibility to obtain a compulsory license in cases of indispensable simultaneous transfer of know how" at 4

⁷⁸⁴ Clemens Heusch, Bjoern Joachim, Karsten Koeniger, Wolrad Prinz-Zu-Waldeck-und Pyrmont, Benjamin Raue, Tim Reinhard, Michael Schneider, Peter Slowinski, Ludwig Von-Zumbusch, *Germany; Quantification of monetary relief* AIPPI Study Question Response (2011) (available at: http://aippi.org/wp-content/uploads/2017/05/2017_DE_Study_Question_Quantification_of_monetary_relief_2017-05-10.pdf, 'In Germany, the quantification of damages in the field of intellectual property rights is governed by the legal doctrine that there is a fixed amount of damages, which can be - in theory - precisely calculated. As this undertaking proves to be virtually impossible in reality there are three different ways to estimate the damages occurred: actual loss, reasonable royalty and infringer's profits. The right holder has the right to choose between the three alternatives until the closure of the last oral argument in court' at 1

discretion to allow continued infringement, that inherent in the ability to grant a compulsory license and the discretion to accept an antitrust defence against applications for a cease and desist remedy the courts must also have the discretion to set running reasonable royalties for ongoing infringements.⁷⁸⁵ The central discrepancy with respect to German reasonable royalties and those which would be calculated using the correlated rights doctrine is that the former focuses on existing license comparisons, whereas the latter focuses on attempting to determine the proportional value provided by the IP owners' contribution to the integrated technological product. The question as to whether the discretion of the court provides it with the flexibility to grant damages equivalent to the value which an intellectual property provides to an integrated technological product is not entirely clear, however given that a strict of §139 requires the court to pay damages it can be inferred that those damages can and ought to be equivalent to the true value of the intellectual property.⁷⁸⁶

Summary of the German Patent Act Compatibility

The German Patent Act clearly reflects an assumption that intellectual property being protected represent standalone innovations (§9), and those properties need to be protected against criminal infringement (§142). That said, it has at least begun to recognise that there may be instances where the innovations are integrated. The most visible indications of this is the section which allow owners to reduce their patent maintenance cost by declaring that they are open to licensing, (§23) and sections covering compulsory (§24 & §81). The disjoint nature of the Act is also evident in the instructions with respect to remedies. When it comes to damages the court is mandated to ensure the owners receive compensation which is equitable, (§139(2)) which can be taken to mean proportional to the damages. However, when it comes to injunctive relief (§139(1)) there is no requirement for proportionality. While this does not mean that injunctive relief will be automatic, it does mean that it can be granted to owners who abuse their rights to coerce users to pay a higher royalty rate than their contribution to an integrated product merit. These conflicting objective and methodologies mean that while the German Patent Act is capable of applying the correlated rights doctrine, it may not do so if it is interpreted in using traditional precedents. Also of concern, is the bureaucratic interference which occurs when a declaration of a willingness to provide an open license is declared. Rather than let owners set a royalty rate within a reasonable royalty range for their license, this Act allows the patent office to dictate what the rate should be. While this clearly represents a desire to avoid excessive pricing, such interference in the free market is always controversial, because of its susceptibility to incompetence and capture. It would be far better to allow potential users to challenge the reasonableness of the royalty rates in the courts, where the burden of proof to show that the rate was unreasonable would fall on the potential user. Similar but far less concerning are the royalty calculations of which are required when injunctive relief as the result of a competition law defence. This because while there may be significant adjustments which need to be made

⁷⁸⁵ *Patent Litigation: Germany, (2012)* "the plaintiff can claim to be paid for a reasonable royalty (so called 'license analogy method') The royalty rate is usually the same if the patent holder had granted a license under usual market conditions unless there are special circumstance requiring additions or reductions." at 148

⁷⁸⁶ *Id.* "in patent cases courts look at the value of the invention, taking several factors into consideration, as for example the investment in the technology by the licensor, possible design around costs for the licensee, the costs for competing technologies being available on the market, the value added by the patented technology to the product, prospects of making profit in a particularly lucrative market" at 3

to comparable licensing terms in order to get them to reflect the value of the correlated property contributed by the IP owner, at least there is a starting point for those calculations.

That said given recent developments in the application of German patent law it appears to be clear the courts have allowed a de-facto application of the correlated rights doctrine which means that an actual application of the correlated rights doctrine would also be consistent with the legislation.⁷⁸⁷

10.7 The United Kingdom Patents Act

The UK Patent Act of 1977⁷⁸⁸ is selected for analysis because it is the principle law which protects new innovations in the United Kingdom. With its amendments it represents the latest incarnation of intellectual property law that which has been protecting property rights in the United Kingdom for nearly 400 years. While the earliest laws were primarily designed to protect the privileged trading rights of a few fortunate beneficiaries of the Monarch's patronage, this changed with the passage of the Statute of Monopolies in 1623, which voided all royal monopolies except for those which were limited in term. The idea of providing temporary monopolies to encourage innovative advance representing the foundation of modern intellectual property law. Like in most countries, this current Act was initially drafted at a time when standalone intellectual property was the primary type of intellectual property being protected. While the remnants of objective are still visible, it is clear that there have been significant efforts to modify this law because of the increases in integrated technologies which have contributions from multiple intellectual property owners.

Commentary on Relevant Articles

Compulsory licences: general

'48. -(1) At any time after the expiration of three years, or of such other period as may be prescribed, from the date of the grant of a patent, any person may apply to the comptroller on one or more of the relevant grounds -

- (a) for a licence under the patent;
- (b) for an entry to be made in the register to the effect that licences under the patent are to be available as of right; or ...

(2) Subject to sections 48A and 48B below, if he is satisfied that any of the relevant grounds are established, the comptroller may -

- (a) where the application is under subsection (1)(a) above, order the grant of a licence to the applicant on such terms as the comptroller thinks fit;
- (b) where the application is under subsection (1)(b) above, make such an entry as is there mentioned;
- (c) where the application is under subsection (1)(c) above, order the grant of a licence to the person specified in the application on such terms as the comptroller thinks fit.

⁷⁸⁷ This conclusion is supported the Orange Book Standards case described in Chapter 9. It is also supported by the 2016 case of Huawei v ZTE which was referred to the CJEU described in Chapter 11.

⁷⁸⁸ United Kingdom: The Patents Act 1977 (as amended in 2007) available at <https://www.legislation.gov.uk/ukpga/1977/37>

(3) An application may be made under this section in respect of a patent even though the applicant is already the holder of a licence under the patent; and no person shall be estopped or barred from alleging any of the matters specified in the relevant grounds by reason of any admission made by him, whether in such a licence or otherwise, or by reason of his having accepted a licence.

(4) In this section “the relevant grounds” means -

(a) in the case of an application made in respect of a patent whose proprietor is a WTO proprietor, the grounds set out in section 48A(1) below;

(b) in any other case, the grounds set out in section 48B(1) below.

(5) A proprietor is a WTO proprietor for the purposes of this section and sections 48A, 48B, 50 and 52 below if -

(a) he is a national of, or is domiciled in, a country which is a member of the World Trade Organisation; or

(b) he has a real and effective industrial or commercial establishment in such a country.

(6) A rule prescribing any such other period under subsection (1) above shall not be made unless a draft of the rule has been laid before, and approved by resolution of, each House of Parliament.¹⁷⁸⁹

The first section of the UK patent act which impacts the potential to apply the correlated rights doctrine is Sections 48, which describes the general conditions under which a compulsory license can be granted. Compulsory licensing is relevant to the application of the correlated rights doctrine if they can be granted to integrated technology manufactures when individual owners are unwilling to license their integrated intellectual property on reasonable terms. Although the grounds for granting a compulsory license provided in following sections are not entirely compatible with the correlated rights doctrine, the mere fact that a compulsory licence is available is at the very least an indication that intellectual property rights provided under the Patent Act are not absolute. If there is one aspect of this section which does challenge the application of the correlated rights doctrine, it is the 3-year time period which needs to be observed before a compulsory license can be granted. While this 3-year period can technically be reduced, the probability of both House of Parliament passing the required resolution are so low that it makes the probability of a shorter period a legal illusion. Assuming that the 3-year period stands, what this would mean in the first three years an abusive owner would be able to demand unreasonable licensing terms from integrated technology manufactures and an integrated technology manufacturer would have to acquiesce to those demands if they wanted to incorporate the newest advances in their products. Although paragraph 3 of this section stipulates that licensee who have been coerced into accepting unreasonable licensing demands have the right to apply for a compulsory license, it is unclear whether there is the possibility of claiming damages for the time which the unreasonable license was in place. Even if it is possible to make a retroactive claim which allows licensees to recover the excess fees that they were charged during the first three years and it may be all but impossible to retroactively correct the effects of other unreasonable licensing terms which may have permanently changed the market. As such this particular aspect of the section conflicts with an application of the correlated rights

⁷⁸⁹ *Id.* Section 48

doctrine which would proscribe the coerced acceptance of an unreasonable licensing agreement even if it was only temporary.

'Compulsory licences: WTO proprietors

48A. (1) In the case of an application made under section 48 above in respect of a patent whose proprietor is a WTO proprietor, the relevant grounds are -

(b) that by reason of the refusal of the proprietor of the patent concerned to grant a licence or licences on reasonable terms -

(i) the exploitation in the United Kingdom of any other patented invention which involves an important technical advance of considerable economic significance in relation to the invention for which the patent concerned was granted is prevented or hindered, or

(2) No order or entry shall be made under section 48 above in respect of a patent whose proprietor is a WTO proprietor unless -

(a) the applicant has made efforts to obtain a licence from the proprietor on reasonable commercial terms and conditions; and

(b) his efforts have not been successful within a reasonable period.

(4) No order or entry shall be made under section 48 above in respect of a patent on the ground mentioned in subsection (1)(b)(i) above unless the comptroller is satisfied that the proprietor of the patent for the other invention is able and willing to grant the proprietor of the patent concerned and his licensees a licence under the patent for the other invention on reasonable terms.

(5) A licence granted in pursuance of an order or entry so made shall not be assigned except to a person to whom the patent for the other invention is also assigned.

(6) A licence granted in pursuance of an order or entry made under section 48 above in respect of a patent whose proprietor is a WTO proprietor -

(a) shall not be exclusive;

(b) shall not be assigned except to a person to whom there is also assigned the part of the enterprise that enjoys the use of the patented invention, or the part of the goodwill that belongs to that part;

(c) shall be predominantly for the supply of the market in the United Kingdom;

(d) shall include conditions entitling the proprietor of the patent concerned to remuneration adequate in the circumstances of the case, taking into account the economic value of the licence; and

(e) shall be limited in scope and in duration to the purpose for which the licence was granted.¹⁷⁹⁰

Section 48A provides the relevant grounds under which a compulsory license can be granted. Those grounds include circumstances where an "applicant has made efforts to obtain a licence from the proprietor on reasonable commercial terms and conditions" and those "efforts have not been successful within a reasonable period." This criterion reflects precisely the circumstances under which the correlated rights doctrine would be applied. It is worth noting that in exchange for providing integrated technology manufactures with an opportunity to be

⁷⁹⁰ *Id.* Section 48a

granted a license to the innovations they need on reasonable terms; this section also includes a reciprocal component which mandates that the applicant must be willing to licence any correlated intellectual property they have on reasonable terms to the unreasonable property owner. While it would be more equitable if such a reciprocal arrangement were to require the manufacturer to license their integrated intellectual property on reasonable terms to all potential users, this at least is a step in the right direction as it has the potential to establish terms which can be considered reasonable for the use of their property, and this would make them subject to a compulsory license application if they do not offer those same terms to other manufactures. The first three conditions included in paragraph 6 are all compatible with an application of the correlated rights doctrine, as the doctrine is the antithesis of exclusivity, and does not require the ability assigned nor extra-territorial effect. The fourth condition included in paragraph 6 obviously goes to the core of the justification for applying the correlated rights doctrine, which is to ensure that all intellectual property owners receive appropriate compensation for their contribution to an integrated technological product.

'Provisions about licences under section 48

49.-(1) Where the comptroller is satisfied, on an application made under section 48 above in respect of a patent, that the manufacture, use or disposal of materials not protected by the patent is unfairly prejudiced by reason of conditions imposed by the proprietor of the patent on the grant of licences under the patent, or on the disposal or use of the patented product or the use of the patented process, he may (subject to the provisions of that section) order the grant of licences under the patent to such customers of the applicant as he thinks fit as well as to the applicant.

(2) Where an application under section 48 above is made in respect of a patent by a person who holds a licence under the patent, the comptroller

(a) may, if he orders the grant of a licence to the applicant, order the existing licence to be cancelled, or

(b) may, instead of ordering the grant of a licence to the applicant, order the existing licence to be amended.⁷⁹¹

Section 49 describes the actions which a controller can make in response to a successful compulsory license application. Assuming that an integrated manufacture cannot apply for a compulsory license for three years after the granting of the patent, and as such is forced to accept an unreasonable licensing agreement during that period, controller can either; grant a new license while cancelling the existing license or order the existing license to be amended. As mentioned earlier even if the new licensing terms are reasonable, this section leaves open the question about what can be done about the damages which the licensee suffered during the first three years. Does cancelling or amending the contract mean that the contract is cancelled or amended retroactively or do the new terms only take effect at the time of the decision? If it is retroactive then at least the difference between the new reasonable royalty and the unreasonable royalties paid should be returned to the licensee. If not, the licensor has effectively had their unreasonable behaviour rewarded, by allowing them to keep three years of excessive royalties. Further even excessive royalties are returned, it may be impossible to retroactively

⁷⁹¹ *Id.* Section 49

correct the effects of other unreasonable licensing terms, which may have permanently changed the market.

'Powers exercisable following merger and market investigations

50A. (1) Subsection (2) below applies where -

(a) section 41(2), 55(2), 66(6), 75(2), 83(2), 138(2), 147(2), 147A(2) or 160(2) of, or paragraph 5(2) or 10(2) of Schedule 7 to, the Enterprise Act 2002 (powers to take remedial action following merger or market investigations) applies;

(b) the Competition and Markets Authority or (as the case may be) the Secretary of State considers that it would be appropriate to make an application under this section for the purpose of remedying, mitigating or preventing a matter which cannot be dealt with under the enactment concerned; and

(c) the matter concerned involves -

(i) conditions in licences granted under a patent by its proprietor restricting the use of the invention by the licensee or the right of the proprietor to grant other licences; or

(ii) a refusal by the proprietor of a patent to grant licences on reasonable terms.

(2) The Competition and Markets Authority or (as the case may be) the Secretary of State may apply to the comptroller to take action under this section.

(3) Before making an application the Competition Markets Authority or (as the case may be) the Secretary of State shall publish, in such manner as it or he thinks appropriate, a notice describing the nature of the proposed application and shall consider any representations which may be made within 30 days of such publication by persons whose interests appear to it or him to be affected.

(4) The comptroller may, if it appears to him on an application under this section that the application is made in accordance with this section, by order cancel or modify any condition concerned of the kind mentioned in subsection (1)(c)(i) above or may, instead or in addition, make an entry in the register to the effect that licences under the patent are to be available as of right.

Powers exercisable in consequence of report of Competition and Markets Authority

51. (1) Where a report of the Competition and Markets Authority has been laid before Parliament containing conclusions to the effect -

(a) [repealed]

(b) [repealed]

(c) on a competition reference, that a person was engaged in an anti-competitive practice which operated or may be expected to operate against the public interest, or

(d) on a reference under section 11 of the Competition Act 1980 (reference of public bodies and certain other persons), that a person is pursuing a course of conduct which operates against the public interest, the appropriate Minister or Ministers may apply to the comptroller to take action under this section.

(2) Before making an application the appropriate Minister or Ministers shall publish, in such manner as he or they think appropriate, a notice describing the nature of the proposed application and shall consider any representations which may be made within 30 days of such publication by persons whose interests appear to him or them to be affected.

(3) If on an application under this section it appears to the comptroller that the matters specified in the Competition and Markets Authority's report as being those which in the opinion of the Competition and Markets Authority operate, or operated or may be expected to operate, against the public interest include -

(a) conditions in licences granted under a patent by its proprietor restricting the use of the invention by the licensee or the right of the proprietor to grant other licences, or

(b) a refusal by the proprietor of a patent to grant licences on reasonable terms he may by order cancel or modify any such condition or may, instead or in addition, make an entry in the register to the effect that licences under the patent are to be available as of right.

(4) In this section "the appropriate Minister or Ministers" means the Minister or Ministers to whom the report of the Competition and Markets Authority was made.⁷⁹²

While §50A and §51 can be considered relevant to the application of the correlated rights doctrine in that they provide alternative method for securing a compulsory license, they are to a large extent made redundant by the more efficient method of acquiring a compulsory license which are provided by §48 and §48A. This inefficiency is obvious if all the various step which are required to get to a compulsory license using this method are analysed.

The first step requires an integrated technology user to convince the Competition and Markets Authority or the Secretary of State (competition authorities), that the unreasonable terms demanded by a patent owner rises to the level which can be described as anti-competitive behaviour. This may or may not be possible depending how anti-competitive behaviour is defined. If it is defined as behaviour which seeks to create a monopoly, unreasonable licensing terms probably will not be sufficient to justify any action. Assuming the unreasonable licensing terms are recognised as being anti-competitive, the next step requires the authority to decide to pursue an action. This may or may not happen depending on their resources, their willingness to act, and their fear of being countersued by the patent owner. If they do not have the resources to pursue the case, it may lay dormant until resources are freed up. If they believe that the case is likely to be too expensive to pursue they won't pursue it. If they judge that the risk of a counteraction against them could result in significant damages they may also not be willing to pursue it. Assuming the competition authorities decide to pursue the case, the next step involve them publishing "a notice describing the nature of the proposed application" and considering "any representations which may be made within 30 days of such publication". To the extent that representations are made, and those representation a nothing more a continuation of the legal attrition strategy, the competition authorities are required to show them due deference. Assuming that the representations do not contain a sustainable rebuttal to the proposed application, the next step involves the competition authority making an

⁷⁹² *Id.* Sections 50A, 51

application to the controller for a compulsory license, an action that the manufacturer could have done themselves without taking the earlier steps. While the controller will undoubtedly take seriously any application from the competition authorities, this does not mean that the application will be automatically approved. Just as with an application from any other source the controller has the discretion to decide whether they should grant a compulsory depending on the specifics of the case placed before them. If this decision is based on the specifics of the case it should not matter who makes the application.

'Meaning of Infringement

60.-(1) Subject to the provisions of this section, a person infringes a patent for an invention if, but only if, while the patent is in force, he does any of the following things in the United Kingdom in relation to the invention without the consent of the proprietor of the patent, that is to say -

(a) where the invention is a product, he makes, disposes of, offers to dispose of, uses or imports the product or keeps it whether for disposal or otherwise;

(5) An act which, apart from this subsection, would constitute an infringement of a patent for an invention shall not do so if

(b) it is done for experimental purposes relating to the subject-matter of the invention;⁷⁹³

Section 60 represents a typical description of acts which constitute an infringement of a patent. There is nothing particularly noteworthy about this description other than the fact that it suggests that any use of a patent without the permission of the proprietor represents an infringement, unless the use is specifically exempted. As this section includes no exemptions for a compulsory license this would tend to suggest that a compulsory license which is granted despite the objection of a proprietor, is also an infringement. Obviously, this must be considered a mere oversight in the drafting process, but if pushed to the strict limits of strict constructionalism, it could provide owners with an opportunity for extending their efforts of legal attrition.

'Proceedings for infringement of patent

61.-(1) Subject to the following provisions of this Part of this Act, civil proceedings may be brought in the court by the proprietor of a patent in respect of any act alleged to infringe the patent and (without prejudice to any other jurisdiction of the court) in those proceedings a claim may be made -

(a) for an injunction or interdict restraining the defendant or defender from any apprehended act of infringement;

(b) for an order for him to deliver up or destroy any patented product in relation to which the patent is infringed or any article in which that product is inextricably comprised;

(c) for damages in respect of the infringement;

⁷⁹³ *Id.* Section 60

- (d) for an account of the profits derived by him from the infringement;
 - (e) for a declaration or declarator that the patent is valid and has been infringed by him.
- (2) The court shall not, in respect of the same infringement, both award the proprietor of a patent damages and order that he shall be given an account of the profits.
- (3) The proprietor of a patent and any other person may by agreement with each other refer to the comptroller the question whether that other person has infringed the patent and on the reference the proprietor of the patent may make any claim mentioned in subsection (1)(c) or (e) above.
- (4) Except so far as the context requires, in the following provisions of this Act - (a) any reference to proceedings for infringement and the bringing of such proceedings includes a reference to a reference under subsection (3) above and the making of such a reference; (b) any reference to a claimant or pursuer includes a reference to the proprietor of the patent; and (c) any reference to a defendant or defender includes a reference to any other party to the reference.
- (5) If it appears to the comptroller on a reference under subsection (3) above that the question referred to him would more properly be determined by the court, he may decline to deal with it and the court shall have jurisdiction to determine the question as if the reference were proceedings brought in the court.
- (6) Subject to the following provisions of this Part of this Act, in determining whether or not to grant any kind of relief claimed under this section and the extent of the relief granted the court or the comptroller shall apply the principles applied by the court in relation to that kind of relief immediately before the appointed day.
- (7) If the comptroller awards any sum by way of damages on a reference under subsection (3) above, then -
- (a) in England and Wales, the sum shall be recoverable, if the county court so orders, by execution issued from the county court or otherwise as if it were payable under an order of that court;
 - (b) in Scotland, payment of the sum may be enforced in like manner as an extract registered decree arbitral bearing a warrant for execution issued by the sheriff court of any sheriffdom in Scotland;
 - (c) in Northern Ireland, payment of the sum may be enforced as if it were a money judgment.¹⁷⁹⁴

According to Section 61 patent owners have the option of applying to either the courts or the controller for relief when they believe that their patents have been infringed. While both can provide relief, the controller can decline to with the application, in which case the matter will be referred to the courts. The section further defines three kinds of relief which can be provided; injunctive relief, destruction of the infringing product, and damages. Declaration for infringement and accounting for profits representing one step on the path to relief, and one form of damages, respectively. What this section does not provide is a clear annunciation of the obligation of the courts or the controller to provide relief, stating only that "the extent of the relief granted the court, or the comptroller shall apply the principles applied by the court in

⁷⁹⁴ *Id.* Section 61

relation to that kind of relief immediately before the appointed day." This lack of specific direction or limitations on the relief which should be provided, representing a hallmark of a common law legal process which relies more on precedent than specific legislative direction. While this reliance on a precedence can be an obstacle to the implementation of new doctrines which may go against it, this reliance is offset by the fact that when circumstances changes resulting in the precedent creating and inequitable outcome, that precedent can be replaced by a new one. As applying absolutist property rights designed for standalone intellectual property to correlated intellectual property results in an inequitable outcome represents just such a situation, there is every likelihood that new precedents favourable to the application of the correlated rights doctrine will be established.

'Restrictions on recovery of damages for infringement.

62 (3) Where an amendment of the specification of a patent has been allowed under any of the provisions of this Act, the court or the comptroller shall, when awarding damages or making an order for an account of profits in proceedings for an infringement of the patent committed before the decision to allow the amendment, take into account the following—

- (a) whether at the date of infringement the defendant or defender knew, or had reasonable grounds to know, that he was infringing the patent;
- (b) whether the specification of the patent as published was framed in good faith and with reasonable skill and knowledge;
- (c) whether the proceedings are brought in good faith.

§62 (3) is included because it could be relevant to in a situation where an abusive intellectual property owner is seeking damages in excess of the value which the property provides to an integrated technological product. By including a requirement that proceedings be brought in good faith the Act would appear to provide the court with the discretion to take that behaviour into account when deciding damages. This obviously would be entirely consistent with an application of the correlated rights doctrine.

'General powers of the court

99. The court may, for the purpose of determining any question in the exercise of its original or appellate jurisdiction under this Act or any treaty or international convention to which the United Kingdom is a party, make any order or exercise any other power which the comptroller could have made or exercised for the purpose of determining that question.¹⁷⁹⁵

This section is included only because it provides an indication of the freedom of the court to exercise its power under the Act.

'Offences by corporations

⁷⁹⁵ *Id.* Section 99

113.-(1) Where an offence under this Act which has been committed by a body corporate is proved to have been committed with the consent or connivance of, or to be attributable to any neglect on the part of, a director, manager, secretary or other similar officer of the body corporate, or any person who was purporting to act in any such capacity, he, as well as the body corporate, shall be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

(2) Where the affairs of a body corporate are managed by its members, subsection (1) above shall apply in relation to acts and defaults of a member in connection with his functions of management as if he were a director of the body corporate.⁷⁹⁶

This section merely indicates that there is no corporate shield from infringement.

Answers to the Correlated Rights Questions

- 1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

Because §61 provides for the possibility of injunctive relief, the decision to provide relief would appear to be at the discretion of the courts.⁷⁹⁷ However because the UK is a common law jurisdiction this discretion is constrained by precedents not addressed in the commentary. The constraining precedents depending upon whether it is preliminary or permanent injunctive relief which is being sought. In the case of preliminary injunctive relief the constraining precedent requires that the decision be just and convenient.⁷⁹⁸ This precedent would tend to suggest that preliminary injunctive relief would be unlikely to be provided even when there is a strong case for infringement, if damages would be an adequate form of compensation and the defendant is able to pay the compensation.⁷⁹⁹ With

⁷⁹⁶ *Id.* Section 113

⁷⁹⁷ Susie Middlemiss, *United Kingdom*, in *Patent Litigation Jurisdictional Comparisons 2012*, 2nd ed. (Thompson Reuters, 2011) (herein after *Patent Litigation: UK (2012)*) "There are a number of remedies potentially open to a patent owner: A permanent injunction against further infringement or the patent. An injunction is generally granted though it is a discretionary remedy." at 483 and "An injunction is generally granted though it is a discretionary remedy. For example, where any injunction would cause great public inconvenience, a declaration of infringement might instead be granted." at 484

⁷⁹⁸ Lorna Brazell, Douglas Campbell, Ari Laakkonen, Rebecca Lawrence, Shobana Lyer, Charters Macdonald-Brown, Denise McFarlane, Jane Mutimear, Morag Peberdy, Richard Vary, *United Kingdom: Injunctions in cases of infringement*, AIPPI Study Question Response (2011) (available at: http://aippi.org/wp-content/uploads/committees/219/GR219united_kingdom.pdf) "The court has a broad discretion whether or not to grant interim injunctions and the guidelines or criteria which we set out below should not be understood as indicating that the broad discretion of the court is fettered. The criteria to be applied were laid down by the English courts in *American Cyanamid v Ethicon* [1975] F.S.R. 101: the initial question which the court will consider will be (1) is there a serious question to be tried? If the answer to that is, "yes", then two further related questions arise: they are: (2) would damages be an adequate remedy for a party injured by the court's grant of, or its failure to grant, an injunction? (3) If not, where does the balance of convenience lie?" at 1

⁷⁹⁹ *Id.* "If the claimant succeeds at trial, would damages be an adequate remedy for any loss arising from refusal to grant an interim injunction? If so, and the defendant can pay, an interim injunction would not normally be granted, however strong the claimant's case then appeared to be." at 2

respect to permanent injunctive relief for non-practicing entities, another precedent suggests that this relief would generally not be provided when; their claim was small, the value of damages was capable of being estimated, monetary payments could provide adequate compensation and injunctive relief would be oppressive to the defendant.⁸⁰⁰ This precedent however assumes that the defendant is a willing licensee, if the defendant is not a willing license then there is every possibility that injunctive relief will be provided.⁸⁰¹ In essence what both a strict reading of the statutes and the application of the law as constrained by precedent indicate is that the courts do have the discretion necessary to provide both interim and permanent injunctive relief to a non-participating entity when the defendant is an unwilling licensee, but the preliminary relief is unlikely to be provided if the defendant is capable of paying damages.

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

Like the previous answer, as the UK judicial system is a common law system and Section 61 provides for the possibility of this form of relief, the question primarily depends upon the precedent which apply, and which have not been addressed in the commentary. As mentioned in the answer to the previous question, the precedent which relates to the withholding of injunctive relief suggest that this relief would generally not be provided when; their claim was small, the value of damages was capable of being estimated, monetary payments could provide adequate compensation and injunctive relief would be oppressive to the defendant. In the particular instance where the court concludes that the plaintiff is seeking injunctive relief merely to improve its bargaining position this could be considered “oppressive”.⁸⁰² So although there is little in a strict reading of the legislation which allows for the withholding of injunctive relief, it appears that the flexibility inherent in the UK’s common law system has in fact provided the courts with the discretion they need.⁸⁰³ Obviously the existence of this discretion is extremely important for the application of the correlated rights doctrine, as it provides the possibility of

⁸⁰⁰ *Id.* “In *Shelfer v. City of London Electric Lighting Co.* [1895] 1 Ch. 287, ... the court set out some guidelines, which are not a rigid and complete definition, but have been subsequently approved and followed in a number of decisions: (1) If the injury to the plaintiff’s legal right is small, (2) And is one which is capable of being estimated in money, (3) And is one which can be adequately compensated by a small money payment, (4) And the case is one in which it would be oppressive to the defendant to grant an injunction: then damages in substitution for an injunction may be given.” at 4

⁸⁰¹ *Id.* “In cases where NPEs have offered a licence and the offer has been on reasonable terms, and the offer has been refused by the defendants, it may be harder to argue that an injunction would be oppressive. The court is reluctant to force an IP holder to accept damages in lieu of an injunction if there is no willingness to do so: “the court has always protested against the notion that it ought to allow a wrong to continue simply because the wrongdoer is able and willing to pay for the injury he may inflict.” A counter-example is found in *Banks v CBS Songs* [1996] EMLR 452.” at 5

⁸⁰² *Id.* “Where the court considers the claimant’s motives to be such that an injunction should not be granted. For example, an injunction may be refused in circumstances where the claimant is seeking an injunction to improve its position in negotiating a licence (*Banks v EMI Songs* (formerly *CBS Songs Ltd*) (No 2) [1996] EMLR 452).” at 6

⁸⁰³ *Patent Litigation: UK* (2012), “The court has discretion to refuse an injunction and award damages in lieu. The exercise of the discretion will depend on the particular circumstances of the case, including the subject matter of the patent and the nature of the market and whether the claimant is working the invention or offering licenses.” at 484

same sort of outcomes which results from an application of the doctrine, which in turn suggests that the doctrine itself can be “extracted” from these precedents.

Even if withholding injunctive relief was not possible this would not be a catastrophe for the application of the correlated rights doctrine because, §48 and §48A opens up the opportunity of being granted a compulsory license to correlated property owners. Assuming that a manufacturer of an integrated technological product has contributed intellectual property to that product, they should be able to apply for a compulsory license whenever they are subject to unreasonable licensing demands from other contributors.

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

A hallmark of the UK common law system is that the courts are provided broad discretion to interpret legislation which requires action but does not specify the action which is to be taken. not provide as in the case of §61(c) which merely states that the owner is entitled to sue for damages.⁸⁰⁴ It is perhaps because this discretion was too broad that under a subsequent regulation,⁸⁰⁵ the requirements with respect to defining damages were more specifically addressed.⁸⁰⁶ The first part of the this requirement stating that ‘the damages awarded to the claimant shall be appropriate to the actual prejudice he suffered as a result of the infringement.’⁸⁰⁷ A further requirement stating that ‘where appropriate, they may be awarded on the basis of the royalties or fees which would have been due had the defendant obtained a license.’⁸⁰⁸ While the first of these requirements would appear to indicate that the courts are allowed to awarded damages consummate with the value which their property provides to an integrated technological product, the second can be appear as limiting the method of calculating that value to some form of “hypothetical negotiation” based upon exiting licenses.⁸⁰⁹ Obviously

⁸⁰⁴ Jonathan Moss, Annsley Ward, Rafi Allos, Patrick Cantrill, Robert Hurst, Jin Oi, Charlotte Scott, Alice Stagg, *United Kingdom; Quantification of monetary relief* AIPPI Study Question Response (2017) (available at: http://aippi.org/wp-content/uploads/2017/05/2017_GB_Study_Question_Quantification_of_monetary_relief_2017-05-30.pdf), (herein after *AIPPA Monetary Survey UK (2017)*) ‘The general rule is that the claimant is to be restored by monetary compensation to the position he would have been but for the defendant’s infringement, provided that the loss was (i) foreseeable, (ii) caused by the wrong, and (iii) not excluded from recovery by public or social policy. The objective is to compensate the claimant for the loss, not to punish the defendant. In some special cases, damages will not be available where the defendant’s infringement was innocent.

⁸⁰⁵ The Intellectual Property (Enforcement) Regulation 2006 No. 1028

⁸⁰⁶ *AIPPA Monetary Survey UK (2017)*. ‘Regard also has to be had to the Intellectual Property (Enforcement, etc.) Regulations 2006 (which implement the IP Enforcement Directive. Regulation 3(1) (which reflects Article 13(1) of the Directive) provides that, for a knowing infringement, the damages awarded shall be appropriate to the actual prejudice he suffered as a result of the infringement. Regulation 3(2)(a) explains that all appropriate aspects shall be taken into account, including in particular: (i) the negative economic consequences, including any lost profits, which the claimant has suffered, and any unfair profits made by the defendant, and (ii) elements other than economic factors, including the moral prejudice caused to the claimant by the infringement.’ at 1.

⁸⁰⁷ Reg. No. 1028 §3 (1)

⁸⁰⁸ *Id.* §3 (2)(b)

⁸⁰⁹ *AIPPA Monetary Survey UK (2017)* “The reasonable royalty is determined by reference to the outcome of a ‘hypothetical negotiation’, i.e. the sum that would have been determined by negotiation between the parties, provided that each party had made “reasonable use of their respective bargaining positions, bearing in mind the information available to the parties and the commercial context at the time that the notional negotiation should have taken place.” The hypothetical negotiation is deemed to have taken place on the date of the breach. Where a course of conduct over a period of time is the relevant breach, the relevant date will be the first date of such

to the extent that those existing contracts were concluded as arms' length agreements with neither party having coercive power over the other, they should have resulted in royalties which reflect the value which the intellectual property contributes to the integrated technological product. In which case this would mean that the courts would be entirely able to award damages at that same rate. However even if the royalties are excessively above or below the value contributed by the property it is not necessarily the case that the court must set the rates at those levels. This because the precedential case from which the House of Lords indicated that courts are not bound to merely examine existing contracts if in their discretion other considerations should be taken into account.⁸¹⁰ This precedent, in combination with general flexibility of common law to pursue equitable outcomes, would suggest that in all cases the courts would have the discretion to grant damages equivalent to the value contributed by the intellectual property, regardless of the nature of existing contracts.

Summary of the UK Patent Act Compatibility

Because the UK patent law has as its foundation the absolute property rights which were deemed essential to protecting standalone intellectual property, it is hardly surprising that the UK Patent Act still embodies certain elements of that foundation, and as such is not entirely compatible with an application of the correlated rights doctrine. These vestiges of the absolute doctrine can be seen in the convoluted measures which the Act proposes for dealing with abusive intellectual property owners. For while the Act does provide users with the possibility of being granted a compulsory license (§48), as well as the possibility of claiming protection after a competition investigation (§50A) it cannot be said that these embrace the correlated rights objective of protecting users from abusive patent owners in a timely manner. This because a compulsory license can only be granted after a 3-year period and the unfair competition protection is dependent upon a cumbersome bureaucratic mechanism. This means under a strict reading of the Act a manufacturer of an integrated technological product who abide by the law must choose between; accepting the unreasonable licensing demands of an unreasonable owner or waiting three years to for a compulsory license before they incorporated the newest innovation in their integrated technological products. As neither of these options is commercially acceptable it is more likely that they will simply adopt the historical practice of infringing the patent and engage in legal attrition once they are sued. This of course places an

breach. However, negotiating damages are considered to be "quasi-equitable" and therefore where a judge considers there to be "good reasons" to select a different valuation date, he may do so. The hypothetical negotiation is deemed to take place between a willing licensor and a willing licensee. Although it is irrelevant that one (or both) parties would not in practice have agreed to make the deal, the willing parties will generally have the attributes of the actual licensor and the actual licensee: "They bargain as they are, with their strengths and weaknesses, in the market as it exists." quoting (General Tire and Rubber Co v Firestone Tyre and Rubber [1975] 1WLR 819 (HL))" at 3

⁸¹⁰ Id. "In circumstances where the IP rights found to have been infringed are not generally exploited by the manufacturer but are instead routinely licensed together as a portfolio with other IP rights, the court will generally offer compensation on the basis of what royalties are normally sought by the IP owner. Faced with an existing licensing regime, the court has the advantage of direct and analogous evidence to assist it in making an apportionment between the infringed IP right and the other IP rights especially where previous licences by the IP owner already record such an apportionment and royalty rate. However, as Lord Wilberforce held in the House of Lords in General Tire, even in this type of scenario, there is no rule of law which prevents the court, even when it has evidence of existing licensing practice, from taking other general considerations into account. "...The ultimate process is one of judicial estimation of the available indications ..." at 6

unnecessary burden on the UK judicial system and severely reduce the chances of smaller owners receiving reasonable compensation for the use of their intellectual property.

That said as the UK has a common law legal system, the courts do not necessarily have to adopt a strict reading of the Act and can interpret it in manners which are more efficient and provided more equitable outcomes. The precedents flowing from these interpretations providing a more accurate representation of the state of a law, than a strict reading of a law would provide. At present it is those precedents, more so than the Act itself, which support a possible application of the correlated rights doctrine. For not only do they indicate that the courts have broad discretion, in terms of granting injunctive relief and awarding damages, they also indicate that the courts are not restricted to relying on existing methods for assessing damages. This discretion will be key to an application of the correlated rights doctrine, as it is entirely possible that new legal precedents will emerge which will recognise and reject the inefficiency and inequity of both excessive licensing demands and legal attrition. This possibility being strengthened by the fact that the Act itself recognises that abusive behaviour can occur, and at least offers one method for correcting it. In fact, a recent case indicts that the development of a new precedent which seeks to achieve such goals may have already been established.⁸¹¹

10.8 The United States Patent Law

The authority to enact this U.S. Patent Law⁸¹² is provided in the U.S. Constitution which states that '*Congress shall have the power...to promote the progress of ... useful arts, by securing for limited times to ... inventors the exclusive rights ... under their discovery.*'⁸¹³ Using this authority the US Congress enacted of the first Federal patent statute in 1790. The most modern version of that statute is U.S. Patent Act of 1952, as amended, which is documented under Title 35 of the United States Code. The Federal Law is selected for analysis as it is the principle and highest source of law which deals specifically with patent law in the United States. Like in most countries, this law was initially drafted at a time when standalone intellectual property was the primary type of intellectual property being protected. While the remnants of this objective are still contained in the Act, recent case law has changed how it is interpreted with respect to the exclusive rights provided to property owners. This reinterpretation having been made possible by the discretion provided to the courts by the law.

Commentary on Relevant Sections

'154 CONTENTS AND TERM OF PATENT; PROVISIONAL RIGHTS

(a) IN GENERAL.

(1) CONTENTS.—Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of

⁸¹¹ See Discussion of No. HP 2014 000005, Unwired Planet International and Huawei Technologies Co, Limited, Royal Courts of Justice. in Chapter 11

⁸¹² U.S. Patent Law, 35 U.S.C. §§ 1 et seq. (Consolidated as of May 2015)

⁸¹³ U.S. Constitution, Article I, Section 8,

the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process, referring to the specification for the particulars thereof.

(d) PROVISIONAL RIGHTS.

(1) IN GENERAL.- In addition to other rights provided by this section, a patent shall include the right to obtain a reasonable royalty from any person who, during the period beginning on the date of application for such patent under section 122(b), or in the case of an international application filed under the treaty defined in section 351(a) designating the United States under Article 21(2)(a) of such treaty, the date of publication of the application, and ending on the date the patent is issued-

(A) (i) makes, uses, offers for sale, or sells in the United States the invention as claimed in the published patent application or imports such an invention into the United States; or

(ii) if the invention as claimed in the published patent application is a process, uses, offers for sale, or sells in the United States or imports into the United States products made by that process as claimed in the published patent application; and

(B) had actual notice of the published patent application and, in a case in which the right arising under this paragraph is based upon an international application designating the United States that is published in a language other than English, had a translation of the international application into the English language.

(2) RIGHT BASED ON SUBSTANTIALLY IDENTICAL INVENTIONS.- The right under paragraph (1) to obtain a reasonable royalty shall not be available under this subsection unless the invention as claimed in the patent is substantially identical to the invention as claimed in the published patent application.

(3) TIME LIMITATION ON OBTAINING A REASONABLE ROYALTY.- The right under paragraph (1) to obtain a reasonable royalty shall be available only in an action brought not later than 6 years after the patent is issued. The right under paragraph (1) to obtain a reasonable royalty shall not be affected by the duration of the period described in paragraph (1)⁸¹⁴

As with most intellectual property law, US patent law begins by providing owners with a form of exclusive right to use their property. This right is provided under 35§154(a)(1) which grants owners the right to "exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States". For the most part these exclusive/absolute rights were based on a historical perception which holds that inventions are the product of a single inventor operating on his own and would not have been invented but for the efforts of the inventor. However recent changes in the innovation process towards more integrated technologies have both challenged this historical perception and eroded its justification. It is because of the limitations on absolute property rights that outcomes can occur which are consistent with an application of the correlated rights doctrine. It is this

⁸¹⁴ 35 U.S.C. 154

consistency which allows for it to be suggested that the correlated rights doctrine can be “extracted” from the restrictions placed on exclusive/absolute intellectual property rights.

One aspect of this section which does not need to be restricted in order to be consistent with the correlated rights doctrine is the right to receive a reasonable royalty. This requirement representing an acknowledgement that a reasonable royalty rate does exist, and it should be applied when there is an early infringement which cannot be properly litigated before the patent is granted. However as with FRAND requirements, because there is no definition of reasonable royalties, this would appear to be at the discretion of the courts.

'271 INFRINGEMENT OF PATENT.

(a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States, or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

(c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use, shall be liable as a contributory infringer.

(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following:

- (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent;
- (2) licensed or authorized another to perform acts which if performed without his consent would constitute contributory infringement of the patent;
- (3) sought to enforce his patent rights against infringement or contributory infringement;
- (4) refused to license or use any rights to the patent; or
- (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.⁸¹⁵

Unsurprisingly Section 271 uses precisely the same language as Section 154 when describing acts which can be defined as infringement. In addition to repeating the standard definition of an infringement this section also includes specific language which seeks to protect an owner's rights to protection, even when they have behaved in a manner which may resulted in accusations of patent abuse. This specific language serves to reinforce an interpretation which views an

⁸¹⁵ 35 U.S.C. 271

owners' rights to claim infringement are relatively absolute. It should be noted that an absolute right to claim infringement is very different from an absolute right to claim specific remedies for that infringement.

'35 U.S.C. 281 REMEDY FOR INFRINGEMENT OF PATENT.

A patentee shall have remedy by civil action for infringement of his patent.

That the remedies for infringement can be pursued through civil action are in no way remarkable as it is entirely consistent with the consistent with the civil action this section is common law practices which are the hallmark of US law. Indeed, it is worth noting here that the rules governing those infringement relief are defined more by judicial precedent which has been developed under the framework of legislative Acts.

'283 INJUNCTION.

The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.⁸¹⁶

The fact that injunctive relief "may" be granted, obviously provides the courts with a significant degree of discretion as to when relief is granted. This discretion is however not absolute as the courts as it is conditioned on the premise that such relief must be equitable, while at the same time securing the rights of the owner. Clearly if an owner is abusing the threat of injunctive action to coerce manufacturers of integrated technologies to pay an excessive royalty rate, this would not be equitable. It can be presumed that the inclusion of "terms the court deems reasonable" represents an effort to signal to the court that it should provide relief when the terms offered by the patent owner are deemed reasonable

'284 DAMAGES.

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed. Increased damages under this paragraph shall not apply to provisional rights under section 154(d) of this title.

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances. (Amended Nov. 29, 1999, Public Law 106-113, sec. 1000(a)(9), 113 Stat. 1501A-566 (S. 1948 sec. 4507(9)).)⁸¹⁷

⁸¹⁶ 35 U.S.C. 283

⁸¹⁷ 35 U.S.C. 284

Because the court "shall" award damages, this Section represents a requirement and not some form of discretion to provide damages when an infringement is found. In addition to the requirement of provide damages, is that requirement that the level of damages be at least equal to "a reasonable royalty for the use made of the invention". The fact that the court also "may" use expert testimony is a further indication of an objective desire to find a reasonable rate for damages. This requirement obviously is entirely consistent with the principal objective of the correlated rights doctrine which is to ensure that owners who contribute their property to an integrated technology are able to receive rewards proportionate to the value of their contributions. The only aspect of this section which might contradict the application of the correlated rights doctrine is the authority to award damages three time the assessed reasonable royalty rate, which would likely place the damages well above any reasonable royalty range.

Answers to Correlated Rights Questions

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

Under a strict reading of the Code it is clear the courts were provided discretion necessary to grant injunctive relief whenever an infringement is found.⁸¹⁸ However just as with the UK, because the US is a common law country the use of this discretion has been restricted by precedent. In so far as preliminary injunctive relief is concerned these precedents suggest that it will only be provided if it can be proved that; 1) it likely that an infringement has occurred, 2) irreparable harm is likely to occur, 3) equity favours the plaintiff and 4) it is in the public interest.⁸¹⁹ Because of these requirements, it is unlikely that a court would provide a preliminary injunction merely because the defendant is an unwilling licensee. With respect to a permanent injunction, recent precedent require that its grant should be decided using a four-factor test. This test requires proof of; 1) irreparable harm, 2) monetary damages is an inadequate remedy,

⁸¹⁸ Maria Luisa Palmese, *United States*, in *Patent Litigation Jurisdictional Comparisons 2012*, 2nd ed. (Thompson Reuters, 2011) (herein after; *United States Patent Litigation (2012)* "Remedies for patent infringement include injunctive relief (preliminary and permanent)" at 504.at 504.

⁸¹⁹ Kenneth R. Adamo, Barry L. Cohen, Ethan Horwitz, Griffith B. Price, Andrew H. Simpson, Kevin Tottis, *United States: Injunctions in cases of infringement*, AIPPI Study Question Response (2011) (available at: <http://aippi.org/wp-content/uploads/committees/219/GR219usa.pdf> (herein after *AIPPI Infringement Survey UK (2011)*)) "As a preliminary matter, under U.S. law, a preliminary injunction is an extraordinary remedy never awarded as of right. In each case, courts "must balance the competing claims of injury and must consider the effect on each party of the granting or withholding of the requested relief".....In exercising their sound discretion, courts of equity should "pay particular regard for the public consequences in employing the extraordinary remedy of injunction." *Winter v. Natural Resources Defense Council, Inc.*, 129 S. Ct. 365, 376-77 (2008). (citations omitted) In *Winter* , the district court entered a preliminary injunction, and the Court of Appeals affirmed, on the basis of its finding, among other things, that the plaintiff had established at least a "possibility" of irreparable injury if the injunction were not granted. The Supreme Court reversed. First the Court set forth the elements of proof for a preliminary injunction: 1) a likelihood of success on the merits; 2) a showing of "irreparable harm" without an injunction 3) the balance of equities must tip in the plaintiff's favor 4) a showing that entry of the preliminary injunction is in the public interest." at 2

3) the balance of harm favouring the to the plaintiff, and 4) it is in the public interest.⁸²⁰ As analysed in the previous chapter although the current interpretation of these factors suggests that non-participating entities which makes a small contribution to a larger technological product may not be entitled to permanent injunctive relief,⁸²¹ they can be interpreted in a manner which may allow for such relief. Such an interpretation being in keeping with the §283 which allows the courts to provide injunctive relief “in accordance with the principles of equity”.

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

This question is covered by §283, which states that the court may “grant injunctions in accordance with the principles of equity”. However just as with the answer to the previous question, the withholding of injunctive relief depends upon the precedents which have been established. This therefore requires a return to the respective test which need to be applied for both preliminary and permanent injunctive relief. With respect to the preliminary relief, as relief would unlikely to be given even when there is an unwilling licensee, it follows that such relief would also be withheld for a willing licensee. In terms of permanent relief. The primary reason for reintroducing the four-factor test was to prevent owners from coercing users to pay excessive royalties by eliminating the practice of granting automatic injunctive relief whenever and infringement.⁸²² As such it would appear obvious that the courts do now have the discretion to withhold for this purpose, which quite nicely also conforms with the §283 requirement for equity, for granting injunctive relief would likely result in an inequitable outcome.

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

As § 284 requires the court to award damages adequate to the compensate for an infringement and those damages should be no less than the “reasonable royalties” which would be due to an owner, it would appear that a strict reading of this section provides the discretion needed to award damages at a value which corresponds to the value which an intellectual property provides to a technological product. Further, given the lack of a definition for reasonable royalties, this would appear to indicate that their discretion was intended to be quite

⁸²⁰ *Id.* “these criteria are set out in controlling U.S. Supreme Court decision in *eBay, Inc. v. Merc. Exchange, LLC.*, 547 U.S. 388 (2006), which are the four (4) well-known factors: • Irreparable harm; • Inadequacy of legal remedies (money damages); • Balance of hardships; • Public interest favoring / disfavoring injunction.” at 3.

⁸²¹ *Id.* “A number of district and appellate court decisions have cited and discussed *eBay* and/or *Winter v. NRDC* in refusing requests for both preliminary and permanent injunctions on the ground that the plaintiff’s status as an NPE undermined any claim that it would suffer irreparable injury if injunctive relief were not entered. However, there is no per se rule that NPE status means that an injunction must be refused.” at 6, “If the patented technology is used as only a small component of the infringing technology, a permanent injunction may not result. See *Z4 Technologies Inc. v. Microsoft Corp.*, 434 F. Supp. 2d 437, 440 (E.D. Tex. 2006).” at 7

⁸²² *United States Patent Litigation* (2012) “Until recently, granting of a permanent injunction upon finding of infringement was virtually ‘automatic’.” at 505

broad. However regardless of what was intended, this discretion is now subject to various precedents, the most authoritative of which is *George-Pacific Corp. v US Plywood Corp*, which lists 15 factors that can be used to determine reasonable royalties.⁸²³ As discussed in chapter 3 it was perhaps because of the contradictory and ill-defined nature of these factors, that the courts have seized upon the last factor, which was “hypothetical negotiations” as the main method of determining reasonable royalties.⁸²⁴ The primary resource for defining the theoretical results of those hypothetical negotiations being the exiting and comparable industry licensing agreements which have been completed.⁸²⁵ Assuming that those comparable agreements did not result in undervaluation because of the issues described in chapter 9, there is every possibility the courts would still have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product.⁸²⁶

Summary of US Patent Law Compatibility

When analysing the US Patent Act, it is worth remembering that US legal system is a common law system, which traditionally has functioned on the presumption that the enacted laws can and should be interpreted by the courts when they do not provide specific details about their application. This practice being based on an assumption that the judges can provide an important contribution the law and that their contribution should be embraced rather than rejected. The clearest evidence of this faith in capacity of judges to provide a positive contribution to the legal system being the central role that the courts play as one of three branches of government and their position of final arbitrators in matters of constitutional law. Given this structure it is hardly surprising that both the constitution and the US Patent Act does not provide specific directions on how intellectual property law is to be applied, but rather provides the general rules, leaving the specific application of those rule to the discretion of the courts.

⁸²³ *Id.* “If the plaintiff cannot make a requisite showing [of lost profits] it is still entitled to a reasonable royalty on the infringing sales. The amount of the reasonable royalty is determined by considering a host of factors known as the Georgia-Pacific factors, after the case *Georgia-Pacific Corp. v US Plywood Corp.* The determination of a reasonable royalty is fact intensive and includes consideration of factors such as royalty rates previously agreed by the patent owner and comparative royalty rates in the industry.” at 506

⁸²⁴ Peter C. Schechter, David W. Hill, MaryAnne Armstrong, Patrick J. Coyne, Michael J. Frodsham, Charles J. Rogers, Elise J. Selinger, Joseph R. Snyder, John M. Carson, *United States; Quantification of monetary relief* AIPPI Study Question Response (2017) (available at: http://aippi.org/wp-content/uploads/2017/05/2017_US_Study_Question_Quantification_of_monetary_relief_2017-05-08.pdf), (herein after; *AIPPA Monetary Survey US (2017)*) “In cases where the measure of damages is a “reasonable royalty,” both the patentee’s, as well as the infringer’s net and gross profit margins, may be considered in a legal and economic “hypothetical negotiation” employed by courts to determine the royalty percentage.” at 2

⁸²⁵ *Id.* “License agreements must be comparable in economic form and for the same patents or similar technology. Courts may give weight to licensing customs in the industry and actual licenses on patents for similar technologies in determining both the structure and amount of the royalty award (e.g., running royalty, milestone payments, and fully-paid up lump sum amounts.) Comparables are typically determined based on expert testimony comparing and contrasting the material terms of licenses that are alleged to be comparable. Although the Court may exclude certain evidence that may be inflammatory or unduly prejudicial, the degree to which a particular license is comparable and how much weight it should be given are fact issues that are typically submitted to the jury.” at 3.

⁸²⁶ *Id.* “The courts encourage the use of comparable license agreement but only if the use of those agreements is accompanied by an appropriate analysis of the differences between those agreements and the hypothetical license, including any adjustments to the comparable license royalties that should be made to arrive at a reasonable royalty.” at 6

As such when analysing the compatibility of US Patent Act with respect to the application of the correlated rights doctrine the primary question is not whether the Act requires the application of the doctrine, but rather does the Act allow for the application of the doctrine. The answer to this question in the affirmative the Act must provide the courts with the discretion needed to ensure that abuses of patent rights by owners and abuses of the legal process by users can be sanctioned by the courts.

With respect to owners; it is clear that the court has the discretion to withhold injunctive relief from owners who abuse their property rights in order to coerce users into agreeing to unreasonable licensing terms including paying excessive royalty rates. This discretion being provided by Section 283, which states that the court " may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable". Although this discretion is provided using a positive test which say that the court "may grant injunctions" a valid negative transposition of this statement would be that the court "may withhold injunctive relief in accordance with the principles of equity to prevent the abuse of any right secured by patent, on such terms as the court deems reasonable". That said there appear to be limitation on placed on this discretion by Section 271. According to this section owners cannot be denied relief when they engage in five acts which are; 1) deriving revenue from others who are authorised by the owner to practice the patent, 2) licensing others to practice the patent, 3) seeking to enforce patent rights against infringers, 4) refusing to license or use rights or 5) making a license of a patent conditional on the licensing of another patent when there exists no market power in the patent subject to the condition. To the extent each of these acts represents a "safe harbours" in which owners can act without affecting the relief available to them, each needs to be examined to determine if they constitute what would otherwise be abusive behaviour by an owner. Obviously the first two safe harbours need little examination as neither receiving compensation nor licensing their patents to others, should in any way be considered an abuse of patent rights and both are completely compatible with the application of the correlated rights doctrine. The fifth safe harbour is also not an issue, because integrated intellectual properties inherently have market power, with the integrated technological product. Safe harbours three and four however may represent an issue. If the third safe harbour is interpreted to mean that owners cannot be denied injunctive relief, this would obviously greatly enhance their ability to coerce users into accepting unreasonable licensing demands under the threat of injunctive action. However, as such an interpretation would eviscerate the discretion provided in Section 283, a more reasonable interpretation would be that this safe harbour provides owners with the possibility, but not the certainly, of being granted injunctive relief when they seek to enforce their patent rights against infringers. Under the later interpretation, as with an application of the correlated rights doctrine the courts would be free to provide injunctive relief if they thought it was appropriate, but it would not be required to do so as an automatic remedy. A similar interpretation would be required for the fourth safe harbour, in the circumstances where an owner who sought to have their intellectual property integrated into a technological product and then refused to license that property to the manufactures of that technological product. The determining factor in the application of the court's discretion being the reasonableness of the owner's behaviour.

With respect to users, there can be little doubt that the act provides the courts with ample discretion to severely punish users who knowing infringe patent and subsequently abuse the legal process by engaging in legal attrition. The most effective of which are; the discretion to

award damages at three times the assessed rate under Section 284, as well as the discretion to order injunctive relief under Section 283. The problem appears to be that because these sanctions are so severe and can be applied to any form of infringement, the courts appear to have decided that they should allow defendants virtually unlimited opportunities to mount a defence. This acquiescence to a virtually unlimited right to defence is the root cause of legal attrition, as it has fostered protracted discovery processes, as well as deceptive claims regarding the validity and the use of the patented technology. While this acquiescence may have been an equitable response to a statutory obligation on the court to automatically order the most severe remedies, it hardly appears appropriate when the court has the discretion to withhold injunctive relief and ordering reasonable damages, particularly when the cases involve integrated intellectual properties. Indeed, any arguments about the equity of allowing legal attrition, would appear to be nullified by the inequity of forcing small integrated intellectual property owners with limited legal and financial resources to engage in a protracted legal battle with large integrated technology product manufacturers who have virtually unlimited legal and financial resources. So, as the act does provide the courts with the discretion to prevent legal attrition it is entirely compatible with the application of the correlated rights doctrine. The real question being whether the courts will utilise that discretion.

10.9 The Chinese Patent Law

China's patent laws⁸²⁷ are promulgated by the National People's Congress with judicial interpretation provided by the Supreme People's Court. China's first Patent Law was passed by the Standing Committee of the People's Congress on March 12, 1984 and came into force on April 1, 1985. As at that time most industry was owned by the state, the Law followed a Yugoslavian-Romanian model which set up a state firm to purchase patent rights from owners. This state-owned firm would "hold" the invention and other state-owned firms would have the right to practice state-owned inventions, subject to a royalty payment to them. In 1989 as part of Sino-US Trade Negotiations China and the US began negotiations on amendments to China's law which would better protect US companies. After the US threatened trade sanction in 1991, a Memorandum of Understanding (MOU) was reached in 1992. Under the MOU the Chinese agreed to 1) protect pharmaceuticals and chemical products, 2) provide protection to patented processes 3) limiting and clarifying the authority to grant compulsory licenses. 4) extending the patent term from 15 to 20 years and 5) to pass the changes by end of 1992. These amendments were duly passed on September 4, 1992, and the amended Patent Law came into force on January 1, 1993. In return for passing these amendments the US ended its trade sanction procedures. Additional amendments to the Patent Law were made adopted by the National People's Congress in August 25, 2000 and became effective on July 1, 2001. These amendments which were made in order to fulfil the requirements for joining the World Trade Organization and brought the Patent Law into compliance with the TRIPs agreement. The most significant of these amendments were provision of rules for damages and the authorizing of a preliminary

⁸²⁷ Patent Law of the People's Republic of China (as amended up to the Decision of December 27, 2008, regarding the Revision of the Patent Law of the People's Republic of China), English Translation from WIPO website: <http://www.wipo.int/wipolex/en/details.jsp?id=5484>

injunction remedy.⁸²⁸ Unlike early amendments, the 2008 amendments were not driven by external factors, but more of an internal exercise which may explain why they did not provide substantive changes. Overall it must be acknowledged that China's Patent Law has historically been focused on ensuring Chinese access to foreign patents, rather than protecting the intellectual property rights of owners. This however may change as more and more Chinese companies are becoming big patent owners.

Commentary on Relevant Articles

'Article 11 After the patent right is granted for an invention or a utility model, unless otherwise provided for in this Law, no unit or individual may exploit the patent without permission of the patentee, i.e., it or he may not, for production or business purposes, manufacture, use, offer to sell, sell, or import the patented products, use the patented method, or use, offer to sell, sell or import the products that are developed directly through the use of the patented method.

Article 12 Any unit or individual that intends to exploit the patent of another unit or individual shall conclude a contract with the patentee for permitted exploitation and pay the royalties. The permittee shall not have the right to allow any unit or individual not specified in the contract to exploit the said patent.⁸²⁹

Article 11 and 12 provides the foundation for the rights of an intellectual property owner. Unlike most other jurisdictions, this right does not originate from a positive proposition which grants a patent owner the exclusive right, instead it is the result of an instructional declaration and a negative prohibition which details how, "no unit or individual may exploit the patent without permission of the patentee". While this may appear to be an odd judicial construction, it is entirely understandable as historically most of the intellectual property used by Chinese units belong to others, and as such this Act was likely drafted from a user's rather than an owner's prospective.

'Chapter VI Compulsory License for Exploitation of a Patent

Article 48 Under any of the following circumstances, the patent administration department under the State Council may, upon application made by any unit or individual that possesses the conditions for exploitation, grant a compulsory license for exploitation of an invention patent or utility model patent:

- (1) When it has been three years since the date the patent right is granted and four years since the date the patent application is submitted, the patentee, without legitimate reasons, fails to have the patent exploited or fully exploited; or
- (2) The patentee's exercise of the patent right is in accordance with law, confirmed as monopoly and its negative impact on competition needs to be eliminated or reduced.

Article 51 If an invention or utility model, for which the patent right has been obtained, represents a major technological advancement of remarkable economic significance,

⁸²⁸ Mr. Bonan Lin, Mr. Jon Wood, Ms. Soonhee Jang, Overview of Chinese Patent Law 2004; 35th International Congress of the PIPA

⁸²⁹ *Id.* Chinese Patent Law Articles 11-12.

compared with an earlier invention or utility model for which the patent right has already been obtained, and exploitation of the former relies on exploitation of the latter, the patent administration department under the State Council may, upon application made by the latter, grant it a compulsory license to exploit the earlier invention or utility model. Under the circumstance where a compulsory license for exploitation is granted in accordance with the provisions of the preceding paragraph, the patent administration department under the State Council may, upon application made by the earlier patentee, grant it a compulsory license to exploit the later invention or utility model.

Article 54 A unit or individual that applies for a compulsory license in accordance with the provisions of Subparagraph (1) of Article 48 or Article 51 of this Law shall provide evidence to show that it or he has, under reasonable terms, requests the patentee's permission for exploitation of the patent, but fails to obtain such permission within a reasonable period of time.

Article 57 The unit or individual that is granted a compulsory license for exploitation shall pay reasonable royalties to the patentee, or handle the issue of royalties in accordance with the provisions of the relevant international treaties to which the People's Republic of China has acceded. The amount of royalties to be paid shall be subject to consultation between the two parties. In the event of failure to reach an agreement between the two parties, the patent administration department under the State Council shall make a ruling.⁸³⁰

To the extent that the granting of compulsory licenses is one method of applying the correlated rights doctrine, the fact that compulsory licenses are readily available under Chinese patent law would suggest that correlated rights are imbedded in the law. However, this suggestion may be mistaken because of the ease at which it appears that a compulsory license can be granted may undermine the fundamental purpose of applying the correlated rights doctrine. It should be remembered that, the fundamental purpose of applying the doctrine is to ensure that owners of integrated intellectual properties are able to receive rewards which are proportional to the value their contribution to the integrated technology. Obviously when an owner will only lease their patents at royalty rates which are disproportionate to their contribution to an integrated technology, and a compulsory license can be used to rectify this situation by permitting users to use the property at a rate which is proportional to the contribution, this would represent an application of the correlated right doctrine. Just as obviously, when an owner offers to lease their patents at royalty rates which are proportionate to their contribution, and a compulsory license is used to reduce this rate to a rate which is below the value of the contribution, this not would not represent an application of the correlated right doctrine. As such to determine whether these articles are consistent with the application of the correlated rights doctrine, requires a case by case analysis of the terms included in the compulsory license.

Under Article 48 if an owner exercising their patent rights in a way which negatively impacts competition, a compulsory license can be granted to "eliminate or reduce" that impact. The

⁸³⁰ *Id.* Articles 48, 51, 54, 57

problem with this article is that, it is so broad it could be interpreted as applying to any intellectual property which is not provided for free. This interpretation being based on the premise that even reasonable royalty requirements can and do impact competition in that they will both will raise the price of the technological product or prevent manufactures which are unwilling to pay that reasonable royalty from competing in the market. If it is assumed that a higher price or less competition represents a negative impact, than this article would apply. These concerns would of course be misplaced if the original Chinese version of the law stipulated that an "unreasonable negative impact" rather than just a negative impact.

These concerns are however somewhat mitigated by Article 53 which place restrictions on the ability to apply for a compulsory license. Included in this article there is a prerequisite which requires that any applicant who applies for a compulsory to "provide evidence to show that it or he has, under reasonable terms, requests the patentee's permission for exploitation of the patent, but fails to obtain such permission within a reasonable period of time." Whilst this is a positive measure, it does create two new issues in that; it shifts the pricing prerogative from the owner to the user, as well as the burden of proof with respect to proving what is reasonable or unreasonable from the user to the owner. This is no small matter, for whereas it is normal assumed that an owner has the right to set the price for their property, this article reverses this by allowing the user to set the price for the property. Specifically, it requires the user to show that they have made a reasonable offer to license the property, without regard to whether the owner has offered to license the property on reasonable terms. The practical consequence of this reversal of pricing prerogative is that it allows a user to be granted a compulsory license if they can show that they made an offer at the lowest level of a reasonable royalty range, but the owner rejected it because they were offering licensing terms at the higher end of the range. Further, if the user claims that they have made a reasonable offer and that proof is accepted by the authorities, it is then up to the owner to prove the offer was unreasonable. Contrasted against a system where the owner claims that they made a reasonable offer is taken as evidence that their offer is reasonable, and a user is required to prove that the offer is unreasonable, it is easy to recognise a definitive shift in the burden of proof. This combined with the reversal of the pricing prerogative clearly undermines the property rights of owners and makes the compulsory licensing options somewhat, but not entirely contradictory to an application of the correlated rights doctrine. It is not entirely contradictory because it should at least ensure that owners are granted the lowest level of rates in a reasonable royalty rate range, whenever a compulsory license is granted. To be completely compatible with an application of the correlated rights doctrine an owner should not have to prove that an applicant's offer is below the reasonable royalty range, they should only have to prove that their rate is within a reasonable royalty range, and as such only if the applicant can prove the owner's price is outside the range, should a compulsory license be granted.

It should be acknowledged that even if an applicant is able to prove that they are entitled to apply for a compulsory license, this does not mean that the compulsory license will be granted or that it will be granted on terms which would be at the lowest level of the reasonable royalty range. This observation is based on the first sentence of Article 57 which states that; " The unit or individual that is granted a compulsory license for exploitation shall pay reasonable royalties to the patentee." If this sentence is enforced it should obviously ensure that an owner will always be paid a reasonable royalty, which might mean that it is set at the rate offered by a reasonable owner. Unfortunately, this assurance is somewhat undercut by the last two sentences included

in the article which state that "The amount of royalties to be paid shall be subject to consultation between the two parties. In the event of failure to reach an agreement between the two parties, the patent administration department under the State Council shall make a ruling." Noticeably absent in both these sentences is the word reasonable. While it can be argued that the early requirement for a reasonable royalty is covers these last sentences of the article, it can just as easily be argued that it does not, and as such the authorities have nothing which compels them to set a reasonable rate. Further even if there is a compulsion to set a reasonable rate, there certainly is no compulsion to set the rate at the high end of a reasonable royalty range, when that is the rate offered by the owner. It is because the article is drafted in such an open ending fashion that it has the potential of preventing a proper application of the correlated rights doctrine.

'Article 60 If a dispute arises as a result of exploitation of a patent without permission of the patentee, that is, the patent right of the patentee is infringed, the dispute shall be settled through consultation between the parties. If the parties are not willing to consult or if consultation fails, the patentee or interested party may take legal action before a people's court and may also request the administration department for patent-related work to handle the dispute. If, when handling the dispute, the said department believes the infringement is established, it may order the infringer to cease the infringement immediately;

-The administration department for patent-related work that handles the call shall, upon request of the parties, carry out mediation concerning the amount of compensation for the patent right infringement. If mediation fails, the parties may take legal action before the people's court in accordance with the Civil Procedure Law of the People's Republic of China.⁸³¹

Article 60 is included in the Chapter VII of the Act which is titled "Protection of Patent Rights". It is relevant to the application of the correlated rights doctrine because it provides authorities with the authorization to grant injunctive relief when infringement is found. The most notable component of this authorization is that it is drafted in a way which appears to provide the authorities with absolute discretion in terms of granting relief. This discretion is evident in the of the use of the word "may" rather than "shall".

Also, notable in this article is the absence of any reference to an owner's exclusive right to their intellectual property. In fact, nowhere in this Chapter, nor entire Act, is there any mention of an owner's exclusive right to use their intellectual property. Like Article 11, this article instead refers to an absence of permission to use a property. While the implication may be that a permission is required because of an exclusive right, the lack of a clear and definitive mention of an exclusive right, suggests that a there exist no strongly held belief in exclusive intellectual property rights, which should only be limited in special circumstance like when the property is contributed to an integrated technology. Whether this terminology reflects the attitude of the authorities can only be determined by the outcomes court proceedings produce. If the court grants injunctive relief when it is shown that an owner was offering licensing terms within a reasonable royalty range, this would be an affirmation of intellectual property rights in general

⁸³¹ *Id.* Article 60

and correlated intellectual property rights more specifically. If they do not grant an injunction when an owner is offering reasonable terms, this would tend to suggest a disregard for both absolute and correlated intellectual property rights.

'Article 65 The amount of compensation for patent right infringement shall be determined according to the patentee's actual losses caused by the infringement. If it is hard to determine the actual losses, the amount of compensation may be determined according to the benefits acquired by the infringer through the infringement. If it is hard to determine the losses of the patentee or the benefits acquired by the infringer, the amount of compensation may be determined according to the reasonably multiplied amount of the royalties of that patent. The amount of compensation shall include the reasonable expenses paid by the patentee for putting an end to the infringement. If the losses of the patentee, benefits of the infringer, or royalties of the patent are all hard to determine, the people's court may, on the basis of the factors such as the type of patent right, nature of the infringement, and seriousness of the case, determine the amount of compensation within the range from 10,000 yuan to 1,000,000 yuan.⁸³²

The principle justification for applying the correlative rights doctrine to intellectual property law is to ensure that every intellectual property owner is able to receive their fair share of rewards from their contributions to an integrated technology. As Article 65 deals with compensation for unauthorised use, it's central to determining whether the overall Act is capable of and likely to pursue the same purpose. Obviously, the degree to which the article pursues this purpose will determine how compatible it is with the doctrine.

According to Article 65, the court has four; sequentially ordered options which they can use to calculate this compensation. The sequence of these options is significant because latter options can only be pursued if earlier options are "hard to determine", which effectively means that the latter options are legally subordinated to the earlier options.

The option which has the highest superiority, and that the court "shall" use to try to determine compensation is the "patentee's actual loss". Assuming that "actual loss" refer to the profits which were lost because of lost product sales, this option would only apply to practicing entities, where the infringer is the only competition in the industry. It would only apply to practicing entities because non-practicing entities do not have product sales. It would not apply to multi-firm industries because it would be difficult to determine what percentage of the product sales made by the infringer would be by the owner and what percentage would have been made by other manufacturers.

Intriguingly, under an application of the correlated rights doctrine "actual loss" could also be considered a licensing loss, which would be determined by calculating the royalty payments which were lost because the user did not accept licensing offer. Assuming that offer was within the reasonable royalty range which corresponds to the value which the intellectual property provides. If there was not an offer rate, or that offer rate was considered to be above the reasonable royalty range, the next best alternative for determining the "actual loss" would be for the court to choose a rate which is within the reasonable royalty range to determine the

⁸³² *Id.* Article 65

licensing loss. If the court wanted to deter other patentee's from setting excessive rates, it could set the rate at the lower end of this range and still be in conformity with the first option. Only if it is not possible to determine a reasonable royalty range should the first option be considered "hard to determine".

If it is not possible to determine the "actual loss", the second option which "may" be used for determining compensation, involves examining the "benefits acquired by the infringer". To make this calculation it could be assumed that it would be necessary to first determine the profits made by the infringer and then try to determine what percentage of those profits can be attributed to the intellectual property which was used without authorization. This method being more clearly defined in the recent Supreme People's Court of China's guidance on the '*Application of Law in the Trial of Disputes over Infringement of Patent Rights*'⁸³³ Which states that:

'Where it is difficult to determine the actual losses suffered by the right holder from infringement, the courts shall require the right holder to adduce the evidence to prove the profits gained by the infringer from infringement according to Paragraph 1 of Article 65 of the Patent Law; if the right holder has adduced preliminary evidence to prove the profits gained by the infringer, while account books or materials relating to patent infringing acts are mainly controlled by the infringer, the courts may order the infringer to provide the account books or materials; if the infringer refuses to provide the account books or materials without justifiable reasons, or provides false ones, the courts may determine the profits gained by the infringer from infringement according to the claims of and evidence provided by the right holder.'

The problem with this method is that the infringers who do not pay for the intellectual property they use, will most likely not be charging a price for the integrated technological product which reflect the true value of the intellectual property included in it. This will mean that the infringer's profits will be substantially below what they would have been if they were charging the same price as other manufacturers who paid royalties. All of which means that dividing the profits earned by such an infringer, will likely result in compensation well below the reasonable royalty range. If this is the outcome this method would clearly be incompatible with the correlated rights doctrine.

The third option which "may" be used only if the first two option are too "hard to determine" involves determined the compensation "according to the reasonably multiplied amount of the royalties". Strictly read, this formulation would involve multiplying the licensing offer rate by the number of products sold, assuming the licensing offer rate is reasonable. If the offered rate was not within a reasonable royalty range, the multiplied rate would be calculated by somehow attempting to determine a rate within the reasonable royalty range. An assessment which is confirmed by the recent statutory declaration on the interpretation of patent law under Article 24, which states that;

⁸³³ Fa-Shi, Interpretation of the Supreme People's Court on Several Issues Concerning the Application of Law in the Trial of Disputes over Infringement of Patent Rights (II) China Patent Agent (H.K.) Ltd, (2016) Available at: <http://www.cpahkitd.com/en/info.aspx?n=20160414094618513141> (Herein after: Application of Chinese Patent Law (2016).

‘Licensing conditions as stated in Paragraph 2 of this Article shall be determined through negotiation between the patentee and the accused infringer. If no agreement is reached after sufficient negotiation, the parties may request the courts to determine such conditions. The courts in determining such licensing conditions shall take into comprehensive consideration on the factors such as the degree of innovation and the role of patent in standards, the technical field which technical standards belong to, the nature of the standards, the application scope of the standards and relevant licensing conditions according to the "fair, reasonable and non-discriminatory" principle.’⁸³⁴

Because this what would have occurred with an application of the correlated rights doctrine under the first option, an application of the correlated rights doctrine would render this option redundant. However, because the first option likely only applies to lost profits from lost sales, this option is likely the first to refers to lost licencing revenues. The fact that lost licencing revenue is considered to have a lower legal status than infringer profits, clearly would be incompatible with an application of the correlated rights doctrine. Particularly if the “reasonably multiplied amount of the royalties” is significantly below that value which the intellectual property contributes to the technological product.

The final option which "may" be use, only if all the other options are "hard to determine". Under this option the court simply considering all the relevant evidence is authorised to set "compensation within the range from 10,000 yuan to 1,000,000 yuan" which at current exchange rates would be equivalent to between 1,500 to 150,000 euros. While these amounts may be appropriate for minor infringements of rather inconsequential technological products, there is virtually no possibility that they would be sufficient to compensate for a major infringement of a significant technological product. Indeed, the cost of pursuing an infringement claim would be so much higher than the possible compensation, that it would make suing for infringement counterproductive.

Answer to Correlated Rights Questions

1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of the size of their contribution to that integrated technological property or their manufacturing participation?

According to the wording of Article 60, injunctive relief can only be provided after some form of consultation has failed. Further stating that if the court or the administrative department of the office has been convinced that an infringement has occurred may they "order the infringer to cease the infringement immediately".⁸³⁵ Which would indicate that the courts do have the discretion to grant injunctive relief whenever an infringement is found. However, in practice this

⁸³⁴ *Id.* Article 24, para. 3

⁸³⁵ Han Long, Liu Yungui and Lian Yunze, *China*, in Patent Litigation Jurisdictional Comparisons 2012, 2nd ed. (Thompson Reuters, 2011), (Herein after: *China Patent Litigation* (2012)) "Remedies adopted by Chinese courts include cessation of the infringing act" and "If the patent infringements confirmed by the court, a permanent injunction will be granted at the same time." at 84-85

discretion appears to be curtailed by preliminary injunction criteria which includes; irreparable harm, a deposit being provided by the petitioner, and no harm to public interest.⁸³⁶ While there is nothing that suggests how the patent department will determine if an infringement has occurred, it can be assumed that unless it is a straightforward case of piracy, they will wait for a verdict from the court. If this is the case than preliminary injunctive relief is not possible. With respect to permanent injunctive relief, this discretion is similarly curtailed by criteria which require that an injunction; would not harm public interest, and would not cause a significant unbalance to the interests of the parties.⁸³⁷ That said there is nothing in this article which indicates that injunctive relief cannot be provided, if an infringement is found on only a small contribution to an integrated technology, and the use of the word "may" in the instructions indicates that any decision should be at the discretion of the authorities.

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

As with the previous answer although the wording of the legislation does not appear to be any limitation on the discretion to provide injunctive relief, the practical application of injunctive relief is constrained by criteria which would tend to support withholding that relief. Further, as the overall Act tends to be drafted from an intellectual property user's prospective, it is highly unlikely that any perceived abuse of patent rights would be granted the fullest protection under the law, which could justify injunctive relief being withheld under the described circumstances. This assessment being fully confirmed by the Supreme People's Court of China, in their 2016 guidance on the *Application of Law in the Trial of Disputes over Infringement of Patent Rights*. Included in this statutory declaration is Article 24 which states that;

'Where recommended national, industrial or local standards explicitly disclose information on an essential patent that is relevant to such standards, and the patentee is intentionally in breach of its licensing obligations on "fair, reasonable and non-discriminatory" terms as promised in the process of formulating the standards when the patentee and the accused infringer negotiate about the patent licensing conditions, thereby resulting in failure to reach a patent licensing contract and the alleged infringer

⁸³⁶ Guoxu Yang & Lei Wu, *China: Injunctions in cases of infringement*, AIPPI Study Question Response (2011), Available at: <http://aippi.org/wp-content/uploads/committees/219/GR219china.pdf> (Herein after *AIPPI Infringement Survey, China (2011)*) "To grant an injunction on a provisional/preliminary basis, Chinese courts would primarily consider the following factors: (a) It is highly likely (usually to such extent that it has been basically believed) that the act being conducted or will be conducted by the alleged infringer would have infringed on the IPR; (b) If the above act is not checked or prevented from occurring in time, it is likely to cause irreparable harm to legitimate right of the petitioner; 2 (c) Petitioner has put deposit ; (d) Grant of an injunction on a provisional/preliminary basis would not cause harm to the public interest." at 1-2

⁸³⁷ *Id.* "(a) Requested by the plaintiff ; (b) Infringement is decided by court ; (c) Grant of an injunction on permanent basis would not cause harm to the public interest; (d) Grant of an injunction on permanent basis would not cause significant unbalance to the interests of the parties; (e) An injunction on permanent basis will be actually carried out in practice' at 2.

has no obvious faults in the negotiations, the courts generally shall not uphold the right holder's claim for stopping the act of implementing the standards.⁸³⁸

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

Damages are governed by Article 65 which includes four hierarchically ranked methods the court can use to set damages. Within each option the court has a certain amount of discretion to set the rate at which damages will be paid. Under the first option the court has the discretion to set damages at a level that believe represents the actual damages to the owner, which can be assumed to relates to the profits which were lost because of lost product sales.⁸³⁹ Under the second option the court has the discretion to set damages according the benefits provided to the infringer.⁸⁴⁰ This would likely result in damages below the reasonable royalty range, as unauthorised users seldom charge customers the true value of the unauthorised properties they are using so that they can offer a lower price to their potential customers. The third option presumably allows the court to set the damages on FRAND term, but which is likely involve determining reasonable royalties according to the rates paid under comparable patent licenses.⁸⁴¹ While this rate should be within the reasonable royalty range, it is somewhat redundant as the same method could be used in the first option. The final option allows the court the discretion to order a lump sum payment between 10,000 to 1,000,000 yuan.⁸⁴² Even if

⁸³⁸ Application of Chinese Patent Law (2016) Article 24, para. 2

⁸³⁹ Tao Li, Hong TAI, Dapeng Wen, Jiang Li, Dongli Zhang, Lizhe Jiang, Guigui Chen, Wenqing Li, Jiangbin Xie, Zhao Wang, Yanjie Zhen, Xince Sui, Lei Zheng, Lijun Zhao, Jian Zhou, Yongji Wei, *China; Quantification of monetary relief* AIPPI Study Question Response (2017) (available at: http://aippi.org/wp-content/uploads/2017/05/2017_CN_Study_Question_Quantification_of_monetary_relief_2017-05-04.pdf), (herein after; *AIPPA Monetary Survey China (2017)*) 'The actual losses suffered by the right holder due to the infringement may be computed by the total reduction in the volume of sale of the patented products/the goods sold in the market due to the infringement times the reasonable profit of each patented product/the unit profit of goods of the registered trademark. Where it is difficult to determine the total reduction in the volume of sale by the right holder, the total of the infringing products/the goods sold in the market times the reasonable profit of each patented product/the unit profit of goods of the registered trademark may be deemed to the losses suffered by the right holder due to the infringement' at 1.

⁸⁴⁰ *Id.* 'a) If the right holder has adduced preliminary evidence to prove the profits gained by the infringer, while account books or materials relating to patent infringing acts are mainly controlled by the infringer, the courts may order the infringer to provide the account books or materials; if the infringer refuses to provide the account books or materials without justifiable reasons, or provides false ones, the courts may determine the profits gained by the infringer from infringement according to the claims of and evidence provided by the right holder. Moreover, the volume of infringement sale can be investigated through public announcement, advertisement of the infringer or through the infringer's client and is submitted to the court as evidence. b) In Chinese juridical practice, the profit margin must be considered[3] when the actual losses suffered by the right holder is calculated. The kinds of profit margin to be considered include net profit margin, industry profit margin, average profit margin, self-confessed profit margin, the unit profit of goods of the registered trademark etc' at 1

⁸⁴¹ *Id.* 'When quantifying a reasonable royalty, the following factors shall be considered, i.e. whether there is the most similar royalty in the same industry, whether any interest is existed between the parties of license agreements, whether the license agreement has been fulfilled etc. If there is no existent, reasonable and comparable royalty, this method is not applicable. a) the royalty base can be the royalty in the IP contract signed by the plaintiff with the others on the involved Intellectual Property before litigation, or can be the royalty of the most similar IP right in the same industry. b) The comparability of the license agreements is defined by considering the following factors e.g. the comparable license agreement shall be real and effective, has been fulfilled and is universal as much as possible.' at 2

⁸⁴² *China Patent Litigation* (2012) 'Monetary remedies are calculated based on either the plaintiff's loss of profit caused by the infringement or the infringer's profits obtained from the infringement. If it is difficult to prove the

the rate is set at the highest level under his option, it is highly likely that it would be substantially below the reasonable royalty range.

Summary of Chinese Patent Law Compatibility

Given that the Chinese patent law has to potential of being equitably interpreted in a way which would protect both owners and users from abusive behaviour, it can be regarded as being compatible with an application of the correlated rights doctrine. This compatibility is however somewhat compromised by both spirit, and two specific provisions of the law which tend to disproportionately favour users over owners. This spirit of disproportionate support for users can be found in the fact that nowhere in the act does it declare that owners have property rights, instead it implies those rights by creating an obligation on users to acquire permission to use intellectual property of others.

The first provisions which disproportionately support users can be found in Article 53 which covers the granting of compulsory licenses and allows the user rather than the owner to determine what is a reasonable price for the intellectual property. Assuming that it is accepted that there is not a single rate but a range of rates which can be considered reasonable, this can have the practical consequence of forcing owners to accept royalty rates at the lower end of the reasonable royalty range, thereby eliminating their ability to maximize the reasonable compensation that they can receive for use of their property. The second provision which disproportionately favours users in Article 65 which describes four ways in which damages can be calculated; two of which would result in reasonable compensation, and two of which would result in a compensation rate below a reasonable royalty range. The first of the reasonable compensation methods requires the court to base the calculation on the owner's "actual losses" which should ensure that the damages are set at the higher end of the reasonable royalty range. However, this method does not have to be used if court finds that the "actual loss" is "hard to determine". Theoretically "hard to determine" might mean that an owner is not able to prove that they have licensed the very same properties to a number of other users at a specific rate, something which is all too common in integrated licensing agreements. If the court finds that calculating the actual loss is hard to determine than it can move on the second method which involves calculating the "benefits acquired by the infringer". While this may appear like an equitable way of determining damages, it disproportionately favours users because infringers seldom charge customers the true value of the unauthorised properties they are using as lower prices are the best way of attracting potential customers. Using this discounted royalty rate will therefore generally mean that owners are granted compensation well below a reasonable royalty range. The third method the courts can use if it is "hard to determine" either the actual loss or the benefit to the infringer, involves calculating the damages "according to the reasonably multiplied amount of the royalties". Assuming this means that the damages will be calculated based on the royalties paid for comparable properties, it should result in damages being set within the reasonable royalty range. However, given this method could just as easily be used for the first method it raises the question whether it would ever be properly considered,

foregoing amount, monetary remedies can be decided with reference to the royalty of a patent license. The court may determine a reasonable level ... If there is no royalty to which it is possible to refer, or the royalty is clearly unreasonable, the court has the discretion to decide the damages. This is normally between RMB 5;000 (approximately EUR 550) and RMB 300-500,000 (approximately EUR 33,000 -55,000)." at 85.

which leads to the fourth and most discriminatory method. This method involves granting a lump sum payment of between 1.500 Euros to 150,000 Euros to the owner. This is discriminatory because in most cases even the highest end of this range would result in a payment which would represent an insignificant fraction of true value of the intellectual property being used by multinational technology producers. Not to mention the lower end of the range which would render any infringement suit a pointless waste of legal and financial resources.

That said, while the Chinese Patent law is tilted in the favour of the Chinese manufacturers it does provide the courts with sufficient discretion to mitigate that bias, if they choose to do so. Further given that Chinese entities are fast becoming major intellectual property owners, it may be that the nationalist sentiment will quickly evolve into a correlated rights sentiment.

10.10 The Indian Patents Act

Although patent laws existed in India prior to 1970, because they were based upon British Patent Laws which were amended to accommodate the consolidation of economic power in British hands, it would be unfair to describe them as Indian patent laws. To find the first truly Indian patent law it is necessary to find the first law on patents which was passed the Indian Legislature after it gained independence from British rule in 1947. This would be the patent Act of 1970.⁸⁴³ Under the 1970 Act all medicine, food, and agro-chemicals products were transferred from the label of product patents and placed into a new group of process patents. The clear purpose of this transfer was to shorten the duration of the patent period on these items. Whereas product patents held terms of 14 years, process patents were only valid for 7 years from the date of the patent application. Although this change may have appeared somewhat arbitrary and unreasonable, it was almost certainly done to protect the health and welfare of the Indian public who were being denied access to life saving or otherwise essential products, because too many did not have the financial resources to pay the prices being charged by most manufacturers who refused to sell their patented products at more affordable prices. While the 1970 Patent Act was amended in 1999 and 2002, it was not until 2005 that the redefined products were transferred back to the product patent coverage. In addition to the return transfer and in keeping with TRIPs agreement requirements, that same amendment extended the product patent period from 14 years to 20 years. While this change could be seen as betrayal of the poor Indian public; it was not because of the extensions of the compulsory licensing provision included in the amendment allowed those essential patented products to be provided to the local market at affordable prices.

Interestingly it can be argued that it was the complaints that multinational manufacturers made about the Indian government's refusal to allow its citizens to die for want affordable medicine which was the primary driver behind the overthrow of the notion of absolute intellectual property rights. If the multinationals would have accepted the Indian governments shortening of what were effectively "absolute patent rights" there is every possibility that compulsory licensing would not have become such a dominate feature in the TRIP's agreement. Indeed, it was the developing countries; lead by India, who insisted on having explicit provisions in the TRIP's agreement which allowed them to continue providing compulsory licences when the health and welfare of their nations were placed in jeopardy by the patent owners.⁸⁴⁴ By

⁸⁴³ The Patents Act, 1970 (as amended up to Patents (Amendment) Act, 2005),

⁸⁴⁴ Duncan Matthews, *Globalization of Intellectual Property Rights*, (Routledge, 2002) at 115

including relatively general authorisation to include compulsory licensing provisions in national intellectual property law, the TRIP's agreement universally eviscerated the sanctity of the absolute intellectual property rights, thereby ensuring its demise. Only if property rights are absolute can they be withheld regardless of the circumstances, once that absolute notion is breached, it was only a matter of time when its validity would be challenged by new circumstances other than those which initiated the breach. The most significant of those new circumstances being the evolution of innovation from a standalone to an integrated development process. So, in many ways this thesis owes a great deal to India intellectual property law, for without India's determination the prospect of correlated intellectual property rights would have been inconceivable.

Analysis of Relevant Articles

'CHAPTER VIII GRANT OF PATENTS AND RIGHTS CONFERRED THEREBY

48. Rights of patentees. Subject to the other provisions contained in this Act and the conditions specified in section 47, a patent granted under this Act shall confer upon the patentee— (a) where the subject matter of the patent is a product, the exclusive right to prevent third parties, who do not have his consent, from the act of making, using, offering for sale, selling or importing for those purposes that product in India;⁸⁴⁵

As with most intellectual property rights legislation Section 48 provides owners with "the exclusive right to prevent third parties who do not have his consent, from the act of making, using, offering for sale, selling or importing" the infringing product. If this exclusive right is not limited by subsequent sections, it would represent an absolute right which it is incompatible with the correlated rights doctrine.

'CHAPTER XVI WORKING OF PATENTS, COMPULSORY LICENCES AND REVOCATION

83. General principles applicable to working of patented inventions. Without prejudice to the other provisions contained in this Act, in exercising the powers conferred by this Chapter, regard shall be had to the following general considerations, namely;

- (a) that patents are granted to encourage inventions and to secure that the inventions are worked in India on a commercial scale and to the fullest extent that is reasonably practicable without undue delay;
- (b) that they are not granted merely to enable patentees to enjoy a monopoly for the importation of the patented article;
- (c) that the protection and enforcement of patent rights contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations;
- (d) that patents granted do not impede protection of public health and nutrition and should act as instrument to promote public interest specially in sectors of vital importance for socio-economic and technological development of India;

⁸⁴⁵ *Id.* Section 48

- (e) that patents granted do not in any way prohibit Central Government in taking measures to protect public health;
- (f) that the patent right is not abused by the patentee or person deriving title or interest on patent from the patentee, and the patentee or a person deriving title or interest on patent from the patentee does not resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology; and
- (g) that patents are granted to make the benefit of the patented invention available at reasonably affordable prices to the public.¹⁸⁴⁶

The principles contained in Section 83 provide a description of the expectation of how protection should be utilised, as well as addressing usage requirements and prohibited uses. From a correlated rights' prospective the most relevant prohibitions and use requirements are; the prohibition on abuse contained in 83(f) and the requirement to make "the patented invention available at reasonable prices" included in 83(g). Obviously when a patentee attempts to coerce a manufacturer of an integrated technological product into paying an excessive price using the threat of injunctive action, they would be in breach of both of these conditions.

'84. Compulsory licences.

- (1) At any time after the expiration of three years from the date of the grant of a patent, any person interested may make an application to the Controller for grant of compulsory licence on patent on any of the following grounds, namely:
 - (a) that the reasonable requirements of the public with respect to the patented invention have not been satisfied, or
 - (b) that the patented invention is not available to the public at a reasonably affordable price, or
 - (c) that the patented invention is not worked in the territory of India.¹⁸⁴⁷

The opening statement on when compulsory licenses are to be provided under Section 84(1) was likely drafted to specifically ensure that medicine that is needed for the nation is readily available at affordable prices.⁸⁴⁸ While this statement may be justified with respect to the ensuring the vital health care needs of the nation, it does not follow that they should also be applied to every product which incorporate patented intellectual properties. For if they did apply; it would mean that virtually every patented technological innovation, regardless of the

⁸⁴⁶ *Id.* Section 83

⁸⁴⁷ *Id.* Section 84(1)

⁸⁴⁸ Amarjit Singh, *India: Injunctions in cases of infringement*, AIPPI Study Question Response (2011) (available at: <http://aippi.org/wp-content/uploads/committees/219/GR219india.pdf>) (Herein after: *AIPPI Infringement Survey, India (2011)*) 'However, in a recent case *Cipla v. Roche*, the Delhi High Court denied a temporary injunction on a cancer drug (erlotinib) that Cipla was manufacturing despite the existence of a patent owned by OSI (and licensed to Roche). The decision cites the US. eBay decision and applies the 4-factor test, In weighing public interest factor, the court declared that: "Undoubtedly, India entered into the TRIPS regime, and amended her laws to fulfill her international obligations, yet the court has to proceed and apply the laws of this country, which oblige it to weigh all relevant factors. In this background the Court cannot be unmindful of the right of the general public to access life saving drugs which are available and for which such access would be denied if the injunction were granted... Another way of viewing it is that if the injunction in the case of a life saving drug were to be granted, the Court would in effect be stifling Article 21 [right to life] so far as those would have or could have access to are concerned.'" at 5

reasonableness of licensing conditions, would be susceptible to a compulsory license application. This because a conditionality which demands satisfying "reasonable requirements for the public" at "reasonably affordable price" can be interpreted to suggest that every citizen should both have access to every modern technological consumer product and that the access should be at a price they can afford. Such a requirement would of course be impossible to achieve, even if patent licenses were granted for free. Assuming that it is not the intention of this section to eliminate paid patent licenses, the question becomes how these terms can be interpreted in a more conservative manner, which is what paragraph 7 of this section attempts to accomplish. From a more general prospective this statement would have been much more compatible with the correlated rights doctrine if "at a reasonably affordable price" would have been truncated to "at a reasonable price". Another issue which raises question of compatibility with the doctrine is the fact that there appears to be a waiting period of three years before an application for a compulsory license can be submitted. In fast moving technological fields three years without access the latest innovations would severely damage the market position of most manufacturer.

'84(2) An application under this section may be made by any person notwithstanding that he is already the holder of a licence under the patent and no person shall be estopped from alleging that the reasonable requirements of the public with respect to the patented invention are not satisfied or that the patented invention is not worked in the territory of India or that the patented invention is not available to the public at a reasonably affordable price by reason of any admission made by him, whether in such a licence or otherwise or by reason of his having accepted such a licence.⁸⁴⁹

Section 84(2) is notable because it provides a mechanism under which a licensor can challenge the validity of license which they were coerced to accept. If this option was not open it would allow licensees to contract out of any correlated rights obligations.

'84(4) The Controller, if satisfied that the reasonable requirements of the public with respect to the patented invention have not been satisfied or that the patented invention is not worked in the territory of India or that the patented invention is not available to the public at a reasonably affordable price, may grant a licence upon such terms as he may deem fit.⁸⁵⁰

Like the first paragraph of this section, this paragraph is so vague and broad it could result in the grant of licensing terms which are totally incompatible with the correlated rights doctrine. While a certain amount of discretion is needed, if that discretion is not constrained by some reasonable measures, it will inevitably lead to unjust outcomes, many of which may arise out of judicial capture by a litigant.

'84(7) For the purposes of this Chapter, the reasonable requirements of the public shall be deemed not to have been satisfied—
(a) if, by reason of the refusal of the patentee to grant a licence or licences on reasonable terms,

⁸⁴⁹ *Id.* Section 84(2)

⁸⁵⁰ *Id.* Section 84(4)

- (i) an existing trade or industry or the development thereof or the establishment of any new trade or industry in India or the trade or industry of any person or class of persons trading or manufacturing in India is prejudiced; or
- (ii) the demand for the patented article has not been met to an adequate extent or on reasonable terms; or
- (iii) a market for export of the patented article manufactured in India is not being supplied or developed; or
- (iv) the establishment or development of commercial activities in India is prejudiced; or
- (b) if, by reason of conditions imposed by the patentee upon the grant of licences under the patent or upon the purchase, hire or use of the patented article or process, the manufacture, use or sale of materials not protected by the patent, or the establishment or development of any trade or industry in India, is prejudiced; or
- (c) if the patentee imposes a condition upon the grant of licences under the patent to provide exclusive grant back, prevention to challenges to the validity of patent or coercive package licensing; or
- (d) if the patented invention is not being worked in the territory of India on a commercial scale to an adequate extent or is not being so worked to the fullest extent that is reasonably practicable; or
- (e) if the working of the patented invention in the territory of India on a commercial scale is being prevented or hindered by the importation from abroad of the patented article by—
 - (i) the patentee or persons claiming under him or
 - (ii) persons directly or indirectly purchasing from him; or
 - (iii) other persons against whom the patentee is not taking or has not taken proceedings for infringement.⁸⁵¹

As mentioned above Section 84(7) seeks to better define the opening statement and more specifically what is meant by "reasonable requirements of the public." It does this by providing a list of actions which would not satisfy this requirement. As this list is drafted in a way which makes each action severable, they will need to be analysed on an individually basis. The first unsatisfactory action would be a "refusal of the patentee to grant a licence or licences on reasonable terms" which; prejudices trading or manufacturing in India, results in a shortage of supply, limits India's export potential or prejudices commercial activity in India. The key to this criterion is the notion of a "refusal to license or license on reasonable terms". As long as reasonable licensing terms are offered this should prevent the granting of a compulsory license, regardless of the consequences for the local and export market. The second unsatisfactory action involves the requirement purchase of unpatented products or services as a condition of a license. Otherwise known as tie-ins this measure is intended to prevent patent monopolies being expanded beyond their original scope. So long there are no such requirement in the licensing terms, this cannot be used as a reason for granting a compulsory license. The third unsatisfactory action is the imposition of licensing conditions which require exclusive grant back, or the prevention to challenges to the validity of patent or coercive package licensing. It should

⁸⁵¹ *Id.* Section 84(7)

be noted that it is "exclusive grant backs" which are unsatisfactory, not grant backs. The overall theme of these actions is that they prevent licensors from competing against or legal challenging a licensee's business. Again, if these terms are not included in the licensing agreement they cannot provide grounds for a compulsory license. The fourth unsatisfactory action should actually be described as an inaction, as it involves not properly working the patent. This action (inaction) can be easily avoided by non-practicing patent owners if they provide open licenses to all interested parties. Whereas it may provide grounds for a compulsory license if manufacturers seek to maintain an exclusive right their contributions to an integrated technological product, regardless of whether they are essential or discretionary patents. The final unsatisfactory action which can provide grounds for compulsory license appears to involve licensing terms which prevent the establishment of domestic manufacturing operations, because imported products are too competitive. This is perhaps the most vague and contentious of the unsatisfactory actions. To the extent that a lack of domestic manufacturing is the result of domestic inefficiencies, it should not be the responsibility of licensees to make them competitive by offering those domestic manufactures better licensing terms than they do their foreign competitors. Indeed, the idea that licensing conditions should vary between countries depending on the efficiency of their manufacturing sectors, is antithetical to the correlated rights objective of ensuring that owners receive fair compensation for their contribution to an integrated technological product. This because if owners have to subsidized inefficient manufacturers, they can only do so out of the value which they would otherwise deserve and would receive if reasonable royalty rates were paid.

'90. Terms and conditions of compulsory licences.

(1) In settling the terms and conditions of a licence under section 84, the Controller shall endeavour to secure

- (i) that the royalty and other remuneration, if any, reserved to the patentee or other person beneficially entitled to the patent, is reasonable, having regard to the nature of the invention, the expenditure incurred by the patentee in making the invention or in developing it and obtaining a patent and keeping it in force and other relevant factors;
- (ii) that the patented invention is worked to the fullest extent by the person to whom the licence is granted and with reasonable profit to him;
- (iii) that the patented articles are made available to the public at reasonably affordable prices;
- (iv) that the licence granted is a non-exclusive licence;
- (v) that the right of the licensee is non-assignable;
- (vi) that the licence is for the balance term of the patent unless a shorter term is consistent with public interest;
- (vii) that the licence is granted with a predominant purpose of supply in the Indian market and that the licensee may also export the patented product if need be in accordance with the provisions of sub-clause (iii) of clause (a) of sub-section (7) of section 84;⁸⁵²

⁸⁵² *Id.* Section 91

Section 90 provides the parameters which are to be observed when granting a compulsory license. While the first parameter requires that the royalty reserved for the owner be reasonable, it may not be consistent with the correlated rights doctrine because it appears to derive what is reasonable from the cost of developing the innovation, rather than the value that it creates. This is a problem for two obvious reasons. First there are many innovations which cost very little to develop and add tremendous value, and second there are more innovations which cost a tremendous amount to develop but are virtually worthless. That said at least there is a requirement for some form of reasonable royalty payment. None of the other compulsory licensing provisions are particularly contentious or incompatible with the correlated rights doctrine.

'91. Licensing of related patents.

(1) Notwithstanding anything contained in the other provisions of this Chapter, at any time after the sealing of a patent, any person who has the right to work any other patented invention either as patentee or as licensee thereof, exclusive or otherwise, may apply to the Controller for the grant of a licence of the first mentioned patent on the ground that he is prevented or hindered without such licence from working the other invention efficiently or to the best advantage possible.

(2) No order under sub-section (1) shall be made unless the Controller is satisfied

- (i) that the applicant is able and willing to grant, or procure the grant to the patentee and his licensees if they so desire, of a licence in respect of the other invention on reasonable terms; and
- (ii) that the other invention has made a substantial contribution to the establishment or development of commercial or industrial activities in the territory of India.

(3) When the Controller is satisfied that the conditions mentioned in sub-section (1) have been established by the applicant, he may make an order on such terms as he thinks fit granting a licence under the first mentioned patent and a similar order under the other patent if so requested by the proprietor of the first mentioned patent or his licensee: Provided that the licence granted by the Controller shall be non-assignable except with the assignment of the respective patents.

(4) The provisions of sections 87, 88, 89 and 90 shall apply to licences granted under this section as they apply to licences granted under section 84.⁸⁵³

Section 91 is intended to cover a situation where a single patent cannot be practiced without the use of another patent. While there are no doubt circumstances where this may occur, in the clear majority of cases integrated technologies involve more than just a couple of patents held by two owners. Usually they involve literally hundreds, if not thousands, of patents held by multiple owners. It is a recognition of this reality which drives the need to apply the correlative rights doctrine. As helpful as this section is, because it only addresses a small subset of correlated innovations, it cannot be considered to represent a comprehensive application of the correlated rights doctrine, although it certainly can be considered to be a step in the right direction which lays the foundations for a more comprehensive application of the doctrine. Particularly laudable in this section is a requirement that anyone who seeks a related patent

⁸⁵³ *Id.* Section 91

license must be willing to license their patent to other on reasonable terms. Also laudable is the fact that there does not appear to be a three-year waiting period before an application for a related licence can be granted, which means that manufacturers with patents will not have to wait three years before they can legally incorporate the latest innovations from third parties in their products. Taken together these requirements for reasonable licensing reciprocity through a rapid procedure are essential if the correlated rights doctrine is to be applied and competition between manufacturers of integrated technologies is to thrive.

108. Reliefs in suit for infringement.

- (1) The reliefs which a court may grant in any suit for infringement include an injunction (subject to such terms, if any, as the court thinks fit and, at the option of the plaintiff, either damages or an account of profits.
- (2) The court may also order that the goods which are found to be infringing and materials and implements, the predominant use of which is in the creation of infringing goods shall be seized, forfeited or destroyed, as the court deems fit under the circumstances of the case without payment of any compensation.

109. Right of exclusive licensee to take proceedings against infringement.

- (1) The holder of an exclusive licence shall have the like right as the patentee to institute a suit in respect of any infringement of the patent committed after the date of the licence, and in awarding damages or an account of profits or granting any other relief in any such suit the court shall take into consideration any loss suffered or likely to be suffered by the exclusive licensee as such or, as the case may be, the profits earned by means of the infringement so far as it constitutes an infringement of the rights of the exclusive licensee as such.

These sections provide a rather brief explanation of the right to seek relief from infringement and relief which can be granted for infringement. Section 109 provides the right to seek relief and the types of relief that can be sought, while Section 108 describes the relief which can be provided. Like most intellectual property laws this relief include the right to seek and possibility of being granted; damages, injunctive relief and destruction of infringing goods. As Section 108 allows courts to provide relief "as the court thinks fit" it would appear to be; entirely at the discretion of the court whether to provide relief, and to determine how much relief is provided when it is provided. Noticeable by its absence is any requirement on the court to provide at least a minimum amount of damages when infringement is found. This lack of a minimum requirement for damages means that damages could be set below a reasonable royalty range which would be inconsistent with an application of the correlated rights doctrine.

Answers to the Correlated Rights Questions

- 1) Do judicial authorities have the discretion needed to grant preliminary injunctive relief and/or permanent injunctive relief on an entire integrated technological product when it is determined that unauthorised users are unwilling to license or are unwilling to pay reasonable royalties to an owner of an integrated intellectual property, regardless of

the size of their contribution to that integrated technological property or their manufacturing participation?

According to Article 108 injunctive relief is always available⁸⁵⁴ and judges have significant discretion with respect to the grant of both preliminary injunctive relief⁸⁵⁵ and permanent injunctive relief.⁸⁵⁶

2) Do judicial authorities have the discretion needed to withhold injunctive relief for ongoing unauthorised use of integrated intellectual property, when it is determined that an intellectual property owner is abusing their rights to injunctive relief to coerce users to pay more for the use of their intellectual property than value their property contributes to the integrated technological product?

This question is made somewhat redundant by Section 91 which provide the option of applying for a "related patent" license. Just as with a compulsory license, the court can grant related patent license if the applicant can demonstrate that they have sought a license from the patent owner, but the owner was unwilling to license or unwilling to license on reasonable terms. Although withholding injunctive relief for essential intellectual properties is also practiced in India.⁸⁵⁷

3) Do judicial authorities have the discretion needed to make rulings which set the level of damages which intellectual property owners should receive for past and ongoing unauthorised use of integrated intellectual property at a level which corresponds to the value which the intellectual property provides to the technological product?

The level of past damages is governed by Section 108 which provides the court with unrestricted discretion to award damages. Although the question of future damages is made somewhat redundant by the possibility of being granted a related patent license which is provided under Section 91. However, Section 90 also provides that under a related patent the court with has a certain amount of more discretion in setting reasonable royalties for past

⁸⁵⁴ Pravin Anand, Aditya Gupta and Saukshmya, *India*, in *Patent Litigation Jurisdictional Comparisons 2012*, 2nd ed. (Thompson Reuters, 2011) (Herein after: *India: Patent Litigation (2012)*) 'The following reliefs are available under the Act against a patent infringer: permanent injunction' at 209

⁸⁵⁵ *AIPPI Infringement Survey, India (2011)* 'The courts, however, have ample discretion to impose terms and conditions while granting interlocutory orders or taking provisional measures to ensure appropriate compensation being paid to the defendant who ultimately is found not to have done any infringement.' at 1

⁸⁵⁶ *India: Patent Litigation (2012)* 'Though there is no judicial precedent in this regard, theoretically, the grant of a permanent injunction does not necessarily follow a finding of patent infringement and a court does have judicial discretion to deny the grant of a permanent injunction notwithstanding a finding of patent infringement.'

⁸⁵⁷ Amarjit Singh Monga & Sagar Chandra, *India: Relief in IP Proceedings other than injunction of Damages*, AIPPI Study Question Response (2013) (available at: <http://aippi.org/wp-content/uploads/committees/236/GR236india.pdf>) (Herein after: *AIPPI Infringement Alternative Survey, India (2013)*) 'The Court in case of an essential patent may be subject to a requirement that it be licensed on fair, reasonable and non-discriminatory (FRAND) terms. In a standard essential patent infringement case such as *Ericsson v. Micromax*, the court requested the parties to enter into a temporary arrangement for licensing on Fair, Reasonable And Non-Discriminatory terms ('FRAND' terms) until it issues a final decision.' at 6-7.

damages than it has for ongoing damages.⁸⁵⁸ As such there is nothing which would prohibit the court for setting past or ongoing damages within a reasonable royalty range.⁸⁵⁹

Summary of Indian Patent Act Compatibility

As mentioned in the introduction it was the Independent Indian Government's desire to ensure that its citizens had affordable access to lifesaving pharmaceutical and otherwise essential patented products which provided the impetuses to end the notion of absolute property rights on the international stage. As such it is hardly surprising that Patent Act of 1970 (as amended) would be drafted in a way which ensures that owners would not be able to abuse their patent rights to the detriment of the Indian public. What was not known at the time of the drafting was that those same provisions which protected the public from abuse, could so easily be re-interpreted to protect correlated intellectual property owners and integrated technological manufactures from the abuse of other owners. The primary tools to prevent this abuse being provided by the sections covering compulsory licensing, and specifically § 91 which allows a compulsory license to be granted if it is needed to work a related patent. Because of this provision can be easily interpreted as providing the courts with the discretion they needed to grant compulsory license when it is a correlated owner who is behaving in an abusive manner, it clearly is capable of applying the correlated right doctrine against abusive owners. However, to be fully compatible with the correlated rights doctrine it must also be capable of protecting owners from abusive users.

The capacity to protect owners requires a minimum of two authorizations. The first being the authority to grant injunctive relief when it is clear that the user has not been dealing in good faith with the owner, and the second the authority to grant damages equal to the damages suffered by the owner as a result of an infringement. As this Act includes the authority to provide both injunctive relief and reasonable damages under Section 108, it can be stated that it meets the minimum requirements necessary to be able to apply the correlated rights doctrine when it is user who are behaving in an abusive manner. Whether the courts will utilise this authority is of course another matter altogether.⁸⁶⁰

⁸⁵⁸ *Id.*

⁸⁵⁹ *Patent Litigation* (2012). 'A patentee may claim damages as well as litigation cost from a patent infringer. Though there is no precedent for ascertaining the basis likely to be used for determining liability, it is likely that they will be calculated by considering a reasonable royalty, lost profits and the account of profits.' at 210.

⁸⁶⁰ See: W.P.(C) Nos. 464/2014 & 1006/2014 LM *ERICSSON v COMPETITION COMMISSION OF INDIA* Described in Chapter 9. What makes this case a good foreteller of the possibility of the eventual application of the correlated rights doctrine in India, is not the fact the it found that a competition investigation could be undertaken concurrently with an infringement action, but rather the case includes several references to international cases which are compatible with an application of the correlated rights doctrine. The most notable being the; *KZR 39/06 (Orange-Book Standard)*, and *Huawei Technologies Corp. v ZTE Corp* which were noted above under the German legislative analysis. After referring to those cases the Judge stated both that: "there is good ground to hold that seeking injunctive relief by a SEP holder in certain circumstance may amount to abuse of a dominant position." p151 and "In the given facts and circumstances, it is difficult to form an opinion that the conduct to Ericsson indicates any abuse of dominance considering the fact that it does appear that Ericsson had made efforts arrive at a negotiated settlement with Micromax and Intex, who on the other hand, appear to have been manufacturing/dealing with products using patented technologies without either obtaining a license from Ericsson or approaching the Controller of Patents for a compulsory license." p158-159 Given these statements recognise the necessity to limit

10.11 Summary of International and National Compatibility

A summary of the compatibility of the correlated rights of doctrine with existing intellectual property law is quite simple. There appears to be nothing in either international intellectual property law, or national intellectual property laws which were reviewed, that indicates applying the correlated rights doctrine would be prohibited by law. In fact, in most cases those laws support the notion that every intellectual property owner should receive fair compensation for their intellectual property. Specifically, almost all legislation (the notable exception being Germany) would appear to provide their courts with the discretion to withhold injunctive relief, when owners of correlated intellectual properties are making unreasonable royalty demands or including anti-competitive licensing terms in their licensing agreements. The only potential obstacle which was found was that a few jurisdictions are so focused on compulsory licensing as a solution to unreasonable licensing practices, that they may impede the provision of running royalties when owners and users are unable to negotiate a mutually agreeable licensing arrangement. However as compulsory licenses are also compatible with the doctrine, this is not necessarily an issue.

This analysis should not come as surprise to anyone familiar with the discretion provided to judicial authorities under the respective legislation. Indeed, it could be argued that this lengthy analysis could have been replaced by a short description of the assumed discretion provide to judicial authorities, and a conclusion that assumed discretion would be consistent with an application of the correlated rights doctrine. However, while such a summary may have been sufficient, it could be considered entirely too presumptive, and likely would have been described as a false assumption before 2006, when the U.S. Supreme court overturned the presumed automatic right to injunctive relief. As such although this chapter may have been a tedious and repetitive, it can at least be viewed as good start on proving the compatibility of the correlated doctrine with existing international and domestic legislation.

the potential to abuse patent rights and the need to respect un-abused patent rights, it could be that India is on the path towards correlated intellectual property rights.

11. A European Requirement to Apply the Correlated Rights Doctrine.

While a review of the legislative language of various jurisdictions indicated that an application of the correlated rights doctrine appears to be compatible with existing intellectual property laws, this does not constitute a requirement to apply the doctrine. However, this lack of a requirement to apply the correlative rights doctrine in intellectual property law, does not necessarily mean that there is no requirement to apply the doctrine. In this chapter it will be argued that in the European Union legal hierarchy there exist laws; which are superior to intellectual property laws, and which establish a legal requirement to apply rules which would be substantively similar to the correlated rights doctrine. Obviously if the analysis of this superiority and legal requirement are correct; these laws should guarantee the inevitable and swift application of the correlated rights doctrine in European Union. The legal instruments which potentially create this superior legal obligation on all intellectual property law in Europe Union are the Treaty on The Functioning of the Europe Union (TFEU)⁸⁶¹ and the Charter of Fundamental Rights of the European Union, (The Charter).⁸⁶²

This chapter it will be divided into two parts, the first will explain how the competition law Articles include in the TFEU, have been interpreted to in a manner that is consistent with the application of the correlated rights doctrine in intellectual property law. Because both the superiority of Treaty Articles and the actual competition components of the Treaty are well documented, this part will focus primarily on the specific case which provides that interpretation. The second part will analyse the Charter; to reveal how it was too can to be interpreted as requiring the application of the correlated rights doctrine in intellectual property law. This part will be divided into three subparts; the first will examine the Charter's standing in EU law, the second will describe the implications which flow from the Charter with respect to intellectual property by analysing the actual articles in the Charter, and the final part will describe how this superiority and these implications can be easily tested and confirmed by requesting a preliminary ruling from the Court of Justice of the European Union (CJEU).

11.1 Competition Law in The Treaty on the Functioning of Europe

It should be mentioned at the outset that is somewhat surprising that the competition articles included in the TFEU, can be relied upon to require the application of the correlated rights doctrine in intellectual property disputes. Not because the articles themselves could not provide the necessary protection, but rather because the method in which they were utilized was not anticipated. It can be recalled that in the Chapter 3 the possibility of utilizing the competition law to resolve the problems of patent hold up and legal attrition were not pursued because of a recognition that regardless of how well intended competition laws or authorities

⁸⁶¹ Treaty on the Functioning of the European Union (Official Journal 2012/C 326/02)

⁸⁶² Charter of Fundamental Rights of the European Union, (Official Journal 2012/C 326/02)

are; the market will always out manoeuvre them, any action they took would usually be too late to prevent the harm done by the abusive behaviour and the remedies provided under competition law would do nothing to compensate those harmed by the abuse. This realization was based on the assumption that in order to pursue a competition action; the injured party would have to first make a complaint to the competition authorities and wait for them to decide to take the case, review the case and make a decision before that decision could be reviewed by the courts. What was not anticipated was the that CJEU could be approached directly to interpret the impact of the competition Articles on a specific case. The absence of this possibility being based upon a presumption of unwillingness of CJEU to circumvent the authority of the European Competition Commission as expressed in commentaries on European competition law,⁸⁶³ and case law. *ARD v Commission*, provides a good example of this case law. In it the Court stated that it would be;

'Limiting its own review to one of 'manifest error', which the court is nevertheless legitimated in undertaking, due to 'the prospective nature of the economic analysis carried out by the Commission,' the Court of Justice thus implicitly confirmed that it will continue to maintain the legal position, ... that - in the field of the application of competition policy - it will not develop an independent standard of free competition, or a subjective right to 'free and fair' competition conditions, which might be asserted by individual Europeans above the legislative provisions of EU competition policy.'⁸⁶⁴

However, these expectations turned out to be mistaken as despite earlier pronouncement, in the case of *Huawei Technologies v. ZTE*⁸⁶⁵ the CJEU effectively did develop an independent standard of free competition.

To fully appreciate the consequence of the decision in Huawei, a brief description of the competition Articles and their legal hierarchy in EU law, will be provided before the analysis of the case is commenced. Articles 101 and 102 are the Articles in the TFEU which relate to competition laws in the European Union. Article 101(1) states that:

The following shall be prohibited as incompatible with the internal market All agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market.⁸⁶⁶

Following this declaration is a non-exhaustive list of examples the types of agreements covered by the declaration.⁸⁶⁷ Article 101(2) states that these types of agreements will be automatically void, whereas Article 101(3) describes situations in which Article 101(1) may be inapplicable and the limits of those exemptions. The primary targets of Article 101 are classic cartels which restrict competition through collusion to maintain either prices or market shares

⁸⁶³ See for example: Thomas Möllers and Andreas Hainemann, *The Enforcement of Competition Law in Europe*, (Cambridge University Press, 2007) p 446

⁸⁶⁴ T-158/00, *ARD v Commission*, (2003) ECR II-325, paragraphs 328-329

⁸⁶⁵ C-170/13, *Huawei Technologies Co. Ltd, v ZTE Corp*, (2015)

⁸⁶⁶ TFEU art. 101, (ex Article 81 TEC) (ex Article 85 ECT)

⁸⁶⁷ *Id.* Article 101(1)(a)-(e)

in a horizon markets, but it also covers vertical market abuses where agreements between buyers and sellers have the same objective as the horizontal market abuses.⁸⁶⁸

Article 102 states that:

'Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States.'⁸⁶⁹

Following this declaration is a non-exhaustive list of the potential abuses of a dominate position which are proscribed by the declaration.⁸⁷⁰ The principle objective of this Article is to proscribe the use of market power to limit competition in the market place.⁸⁷¹

While there are other works in which can be found which provide a detailed description of the relationship between EU competition law and intellectual property rights,⁸⁷² for the purposes of demonstrating EU competence in this area it should be sufficient to identify few key cases and quick mention discussion of the block exemption which was enacted to reduce some the conflicts between these two bodies of law. As the most profound questions in competition revolve around collusion and abuse of power, cases involving these issues would appear to be the most appropriate for demonstrating the EU's competence in this field with respect intellectual property rights.

Two of the earliest cases which made its way to the ECJ were the Cases 56/64 and 58/64 Consten.⁸⁷³ The case involved application for the annulment of a competition authority decision which found that the exclusive distribution agreements between Consten and Grudig were in breach of competition laws as set out in the Treaty.⁸⁷⁴ In its decision the competition authority held that the trademark protection did not provide justification for imposing territorial restrictions in exclusive distribution agreements which prevented distributors from exporting to other EU markets. The Commission's decision was upheld by the ECJ.⁸⁷⁵

Another early case establishing Article 102 implications for intellectual law was Case 24/67 Parke Davis v Probel.⁸⁷⁶ This case was referred to the ECJ by the Gerechtshof (Netherlands' Court of Appeal) which requested an interpretation on how EU competition law impacted the rights of patent holders granted patents by member states. More specifically the Gerechtshof asked whether concepts prohibited under articles 85(1) and 86 TEC included prohibitions on the

⁸⁶⁸ See for example: Giorgio Monti, *EC Competition Law* (Cambridge University Press, 2007) p325-327, Richard Whish, *Competition Law*, Fifth Addition (Oxford Press, 2005) p 80-147, Debbah Maher, *EC and UK Competition Law: Commentary, Cases and Materials*, (Cambridge University Press, 2004) p 55-95, Massimo Motta, *Competition Policy: Practice and Theory* (Cambridge University Press 2004) p 31-34, Manfred Neumann, *Competition Policy*, (Edward Elgar Publishing, 2001) p 99-110

⁸⁶⁹ TFEU art. 102, (ex Article 82 TEC) (ex Article 86 ECT)

⁸⁷⁰ *Id.* Article 102 (a)-(d).

⁸⁷¹ Richard Whish, *Competition Law*, p 186-210, Debbah Maher, *EC and UK Competition Law*, p 327-375, Massimo Motta, *Competition Policy*, (Cambridge University Press 2004) p 34-36, Manfred Neumann, *Competition Policy*, p 134-158

⁸⁷² See for example: Steven Anderman and Hedvig Schmidt *EU Competition Law and Intellectual Property Rights: The Regulation of Innovation* (OUP Oxford Press 2011) passim; Valentien Korah, *Intellectual Property Rights and EC Competition Rules* (Hart Publishing, 2006) passim

⁸⁷³ Case 56 and 58/64 Establishments Consten SA and Grudig-Verfaufs GmbH v Commission (ECJ 13 July 1966) [1966] ECR 229

⁸⁷⁴ IV/A-00004-03344 'GRUNDIG - CONSTEN' [1964]

⁸⁷⁵ *Id.*

⁸⁷⁶ Case 24/67 *Parke Davis v Probel*. (ECJ 26 February 1968) ECR 00055

actions of patent holders, who by virtue of their patents request that national courts prevent all commercial dealing in the protected products coming from another member state which does not provide protection to the product, and if so how the possible application of the articles would be affected by the fact that the patent holder offers the protected product at a higher than unpatented imports. The ECJ ruled that it did not.⁸⁷⁷

Although this ruling, combined with later cases,⁸⁷⁸ established a fairly high threshold for finding an abuse of dominant position for intellectual property holders; they did establish authority of the Commission to use Article 101 in intellectual property disputes, thereby establishing a general EU competence in intellectual property law.

This competence no doubt provided the CJEU with the authority to develop an authoritative standard for intellectual property owner behaviour in the case of *Huawei Technologies v. ZTE*, which as will be explained effectively requires an application of components of the correlated rights doctrine. The case itself related to the right of Huawei, the owner of standard essential intellectual property (SEP), which had provided a FRAND (fair, reasonable and non-discriminatory) licensing commitment to the standardization body (ETSI) for any properties which were included in the standard, to seek injunctive relief. The injunctive relief being sought against ZTE, who allegedly were using the Huawei's SEPs, but were unwilling to license the disputed intellectual property on the terms offered by Huawei.

The case originated in the German courts where after a breakdown in negotiations, Huawei sought; an injunction prohibiting the continuation of an infringement, an order for the rendering of accounts, the recall of products and the assessment of damages. In its defence ZTE argued that the action for a prohibitory injunction constituted an abuse of a dominant position, prohibited by Articles 101 and 102 of the TFEU.

While the German court of Landgericht Dusseldorf, 'accepted the ZTE's use of the patents at issue was unlawful' ... it considered 'that the action for prohibitory injunction could be dismissed on the grounds of the compulsory nature of the license-on the basis of Article 102 TFEU, in particular - if it could be found that, by pursuing its actions for prohibitory injunction, Huawei is abusing 'the dominant position which it unquestionably holds'.⁸⁷⁹ However as the Court was not entirely sure how the Article 102 was should be applied in standard essential patent disputes, it made a request for a preliminary ruling by the CJEU. This request for a preliminary ruling representing an alternative method of enforcing the Article 102, which traditionally would have required ZTE or any other undertaking to file a complaint with the EU Competition Commission. In that preliminary ruling request, they asked a number of questions all of which have implication for an application of the correlated rights doctrine.

The first question which they asked was:

'(1) Does the proprietor of [an SEP] which informs a standardisation body that it is willing to grant any third party a licence on [FRAND] terms abuse its dominant market position if it brings an action for an injunction against a patent infringer even though the infringer has declared that it is willing to negotiate concerning such a licence? or

⁸⁷⁷ *Id.*

⁸⁷⁸ See e.g.: Case T-111/96 *ITT v. Promedia* (CFI 17 July 1988); C-385/07 P - *Der Grüne Punkt - Duales System Deutschland v Commission*, Case C-56/9 *Hilti AG v Commission* (ECJ 2 March 1994) [1994] ECR I-667; Case C-333/94P *Tetra Pak International Sa v Commission* (ECJ 14 November 1996) [1997] ECR I-5951

⁸⁷⁹ Opinion of Advocate General Wathelet, 20 November 2014 p 3

Is an abuse of the dominant market position to be presumed only where the infringer has submitted to the proprietor of the [SEP] an acceptable, unconditional offer to conclude a licensing agreement which the patentee cannot refuse without unfairly impeding the infringer or breaching the prohibition of discrimination, and the infringer fulfils its contractual obligations for acts of use already performed in anticipation of the licence to be granted?¹⁸⁸⁰

In asking this question the German Court is essentially asking; when is seeking injunctive relief in order to coerce an infringer into accepting the owner's licensing terms, a breach of EU competition law. The first part and second parts of the question attempting to ascertain whether an infringer's declaration of a willingness to negotiate is sufficient or whether that declaration has to be backed up by a reasonable and unconditional counteroffer. Implied in this question is that assumption that when there exists a demonstrably willing licensee, it would be a breach of Article 101 if the owner of that SEP still sought injunctive relief.

This question goes to the heart of the application of the correlated rights doctrine, which would suggest that whenever there is demonstrably willing licensor and licensee of a correlated intellectual property, the court should withhold injunctive relief and instead focus on arbitrating between the offer and counteroffers made by the respective parties.

The second question asked was:

'(2) If abuse of a dominant market position is already to be presumed as a consequence of the infringer's willingness to negotiate:

Does Article 102 TFEU lay down particular qualitative and/or time requirements in relation to the willingness to negotiate? In particular, can willingness to negotiate be presumed where the patent infringer has merely stated (orally) in a general way that it is prepared to enter into negotiations, or must the infringer already have entered into negotiations by, for example, submitting specific conditions upon which it is prepared to conclude a licensing agreement?¹⁸⁸¹

This question is a follow up question to the first part of the first question, in that it is designed to get the CJEU to specify the definition of "willingness to negotiate". Obviously if an infringer merely has to declare that they are willing to negotiate they could do so but still not engage in good faith negotiation. If this situation occurs, it would force the owner to return to court and to bear the burden of proving that the infringer is not engaging in good faith negotiations all of which would delay the case. Such a delay could and should be considered an effective part of a legal attrition strategy. A strategy which would be incompatible with the application of the correlated rights doctrine. Alternatively requiring the infringer to make a counter offer is entirely compatible with an application of the doctrine.

The third question which was asked was;

'(3) If the submission of an acceptable, unconditional offer to conclude a licensing agreement is a prerequisite for abuse of a dominant market position:

⁸⁸⁰ *Id.* p 4

⁸⁸¹ *Id.* p4

Does Article 102 TFEU lay down particular qualitative and/or time requirements in relation to that offer? Must the offer contain all the provisions which are normally included in licensing agreements in the field of technology in question? In particular, may the offer be made subject to the condition that the [SEP] is actually used and/or is shown to be valid?⁸⁸²

This question is a follow up question to the second part of the first question, in that it is designed to get the CJEU to specify the definition of what can be represents as a confirmation of willingness to negotiate. Included in it, is an indication of what the German court likely regards as a prerequisite; namely that the counteroffer be acceptable and unconditional. They also appear to imply that terms which would prevent the infringer from challenging the validity of an intellectual property are not required. Assuming that these implications are correct, the substance of the question then becomes about the timing of the counteroffer and any other terms that the CJEU feel need to be included.

As the question is intended to define the nature of a good faith counteroffer it could just as easily be asked if it was a question about an application of the correlated rights doctrine. Although a question about such an application would refrain from using the term "acceptable" instead of "reasonable" as this would appear to add an additional element of confusion to what is already a very complicated issue with respect to intellectual property disputes. Like the implied intent of the German court, an application of the correlated rights doctrine would likely suggest that the counteroffer must be reasonable and unconditional, and forbid terms which would prevent a later suit on the validity of a patent, while leaving the timing and additional terms to the CJEU.

The fourth question asked was:

(4) If the fulfilment of the infringer's obligations arising from the licence that is to be granted is a prerequisite for the abuse of a dominant market position:

Does Article 102 TFEU lay down particular requirements with regard to those acts of fulfilment? Is the infringer particularly required to render an account for past acts of use and/or to pay royalties? May an obligation to pay royalties be discharged, if necessary, by depositing a security?⁸⁸³

This question appears to be redundant. It is redundant because one would assume that any reasonable offer or counteroffer by definition must include a requirement to pay for past unauthorised use and the only way that could be calculated would be by the rendering of accounts as to the quantum of past abuses.

The final question which was asked was:

(5) Do the conditions under which the abuse of a dominant position by the proprietor of a [n SEP] is to be presumed apply also to an action on the ground of other claims (for rendering of accounts, recall of products, damages) arising from a patent infringement?⁸⁸⁴

⁸⁸² *Id.* p4

⁸⁸³ *Id.* p 5

⁸⁸⁴ *Id.* p 5

This question would appear to be something which ought to fall within the discretion of the German court depending on its perception of the reliability of a specific infringer to meet its obligations. That damages are mentioned in this question, really is unnecessary as any reasonable counter offer must surely cure past infringements.

Before moving on to the opinion of the Advocate General (AG) and the CJEU, it is worth pointing out that had ZTE filed a complaint with the EU Commission asking the same questions, this case would still likely be unresolved. This because the EU Commission would have first had to; decide to investigate the complaint, then commenced an investigation which may have involved a public inquiry, before rendering an opinion, which would then be subject to a review by the European General Court (EGC), before finally being reviewed by the CJEU. That there is a mechanism for circumventing these protracted legal proceeding by requesting a preliminary ruling is undoubtedly the most efficient and effective way of filling in the gaps of EU law.

Included in the opinion of the Advocate General, is the recommendation that seeking injunctive relief is not necessarily constitute an abuse of dominate position and should be available to an SEP owner under the following conditions: 1) The owner of the SEP has made the infringer aware of their infringement, 2) The owner of the SEP has made a made an offer to license its SEP's to the infringer on reasonable terms. 3) The infringer has not promptly responded to the owners offer, by either excepting their offer or making a counteroffer to the owner which outlines any clause in the original offer which it finds unsatisfactory. 4) The infringer subsequently does not engage in good faith negotiations to resolve the disputed clauses in a timely manner and fails to indicate willingness to allow the courts or an arbitration panel to fix the terms of the licensing agreement.⁸⁸⁵

In the actual ruling the CJEU accepted and more fully developed the opinion provide by the Advocate General, setting out the steps which must be taking to be granted or to avoid injunctive relief. That the highest Court in Europe would have to articulate and ordered these steps, provides an indication of just how common abusive behaviour has become. For each of the steps is consistent with what would be expected in a normal commercial transaction between a willing licensor and a willing licensee, and if either owners or infringers did not follow them before the court made the order, the only reason for doing so would have been to abuse their rights or to defend against an abuse of their rights. Although these steps are so clear they need little interpretation, each will be summarized and analysed according to both; normal commercial behaviour and an application of the correlated rights doctrine.

The first step ordered is included in paragraphs 60-61 of the judgement which reads:

'60 Accordingly, the proprietor of an SEP which considers that that SEP is the subject of an infringement cannot, without infringing Article 102 TFEU, bring an action for a prohibitory injunction or for the recall of products against the alleged infringer without notice or prior consultation with the alleged infringer, even if the SEP has already been used by the alleged infringer.

⁸⁸⁵ *Id.* p 8-9

61 Prior to such proceedings, it is thus for the proprietor of the SEP in question, first, to alert the alleged infringer of the infringement complained about by designating that SEP and specifying the way in which it has been infringed.⁸⁸⁶

This step establishes that it is up to the owner to notify the infringer that they have identified an unauthorised use of their intellectual property by the infringer. While it could be argued that the infringer ought to notify the owner and sought a license before that any use, given the complexity of modern technological products and the myriad of intellectual properties which may or may not be used in producing a technological product, its not necessarily inappropriate that the burden of identifying an unauthorised use should fall on the owner. That said; when the intellectual property in question represents part of the recognised standard essential patents (SEP) required to produce a technological product and there is no reason why the infringer would not be aware of the use. Which suggests placing the burden on the owner is major concession to infringers, a concession which ought to be reciprocated in the later steps. A requirement to notifying infringers of their infringement is naturally consistent with an any action involving intellectual property rights including ones in which the correlated rights doctrine is to be applied.

The next two steps in the ruling are include in paragraph 63 which reads as follows:

'63 Secondly, after the alleged infringer has expressed its willingness to conclude a licensing agreement on FRAND terms, it is for the proprietor of the SEP to present to that alleged infringer a specific, written offer for a licence on FRAND terms, in accordance with the undertaking given to the standardisation body, specifying, in particular, the amount of the royalty and the way in which that royalty is to be calculated.⁸⁸⁷

This paragraph includes two steps in that are attempting to establish that the existence of both a willing licensor and a willing licensee. Obviously if the infringer does not respond to the owner by indicating that they are willing to conclude a licensing agreement on FRAND terms, they are not a willing licensee and should be treated as such. Alternatively, if the owner does not provide the infringer with a written offer for a license they are not a willing licensor and should be treated as such. The most contentious aspect of this paragraph is the assumption that FRAND terms are a readily identifiable concept, which they are not. From a normal commercial prospective, obviously having both parties indicate they are willing to negotiate, and requiring the owner to make the first offer are entirely in keeping with a tradition commencement of negotiation. From a correlated rights' prospective it indicates a respect for the correlated rights of the owner.

Paragraphs 65-66 outline the fourth step as follows:

'65 By contrast it is for the alleged infringer diligently to respond to that offer, in accordance with recognised commercial practices in the field and in good faith, a

⁸⁸⁶ Huawei v ZTE p 9

⁸⁸⁷ *Id.* p 9

point which must be established on the basis of objective factors and which implies, in particular, that there are no delaying tactics.

66 Should the alleged infringer not accept the offer made to it, it may rely on the abusive nature of an action for a prohibitory injunction or for the recall of products only if it has submitted to the proprietor of the SEP in question, promptly and in writing, a specific counter-offer that corresponds to FRAND terms.⁸⁸⁸

All these two paragraphs require is that the infringer make a good faith and timely response to the owners offer. That response can come in the form of an acceptance of the offer or by making a counteroffer which corresponds to their perception of FRAND terms. As with any ordinary commercial negotiations this counteroffer should be based on amendments to the original offer, but there is nothing in these paragraphs which would prevent the infringer from making a counteroffer based in licensing agreements they have already concluded with other intellectual property owners. While the definition of a timely response is not provided, such a definition could and should take account of the major concession provided to infringers in the first step. Allowing them to use intellectual property without first seeking a license for that use makes an otherwise unlawful use, lawful, and ought to require that they respond almost immediately to the owners offer. From a correlated rights' prospective one of the most important elements of these paragraphs is the requirement to make the counteroffer on a timely basis, which reduces the risk of legal attrition. Again, the most contentious aspect of this paragraph is the assumption that FRAND terms are a readily identifiable concept, which they are not.

Paragraphs 67-68 outline the next steps in the process as follows:

'67 Furthermore, where the alleged infringer is using the teachings of the SEP before a licensing agreement has been concluded, it is for that alleged infringer, from the point at which its counter-offer is rejected, to provide appropriate security, in accordance with recognised commercial practices in the field, for example by providing a bank guarantee or by placing the amounts necessary on deposit. The calculation of that security must include, inter alia, the number of the past acts of use of the SEP, and the alleged infringer must be able to render an account in respect of those acts of use.

68 In addition, where no agreement is reached on the details of the FRAND terms following the counter-offer by the alleged infringer, the parties may, by common agreement, request that the amount of the royalty be determined by an independent third party, by decision without delay.⁸⁸⁹

These paragraphs constitute the conditions under which negotiations should occur and how they should be resolved if they fail. Paragraph 67 is intended to provide the owner with the confidence to know that they will eventually be paid for the unauthorised use by the infringer. Obviously, this dramatically levels the playing field in terms of negotiations, for if the owner does not have these assurances, the uncertainty of payment could be used against them in their

⁸⁸⁸ *Id.* p 9-10

⁸⁸⁹ *Id.* p 10

negotiation. While this could be considered a concession with respect to the infringer, it is a concession that would appear to be wholly justified by the courts willingness to overlook their ongoing unauthorised use of the owner's intellectual property. Paragraph will 68 is merely a statement of the obvious; in that if negotiations fail the infringer should be willing to allow an independent assessment of what terms should be included in license if they want to avoid the granting of injunctive relief. Alternatively, the owners should also be willing to allow an independent assessment of the same terms before they are granted injunctive relief. These chapters are entirely compatible with the correlated rights doctrine in that they provide for a mechanism to ensure that owners are paid for the use of their intellectual property and would allow the application of the correlated rights doctrine by the courts to resolve failed negotiations.

Overall this ruling is entirely consistent with the application of the correlated rights doctrine, as it ensures that reasonable owner will be protected from unwilling or unreasonable infringers and that reasonable infringers will be protected from unreasonable owners. Further it provides that; when there exist disagreements over licensing terms, the courts can resolve those difference according to the intellectual property rights of the litigants. Indeed, this decision is so compatible with an application of the correlated rights doctrine, that it may appear redundant to suggest that any further action by the court is required. There is however one unresolved issue with respect of these types of disputes which has not been clearly addressed in this ruling. That unresolved issue relates to the definition of FRAND, and outside the situations where a FRAND commitment has been made, the definition of reasonable royalties when correlated intellectual properties are in dispute. A deficiency which was openly recognised by the AG Wathetet in his opinion.

'the matter at dispute before the referring court, which, in my view, stems largely from a lack of clarity as to what is meant by 'FRAND terms' and as to the requisite content of such terms, could not be adequately -if not better -resolved in the context of other branches of law or by mechanisms other than the rules of competition law.'⁸⁹⁰

This is an interesting observation because what it suggests is this problem would be better resolved if it was possible to use another body of law to determine the definition of FRAND/reasonable royalties. Clearly given the legal hierarchy of EU law, if that body of law was the hierarchically superior Charter of Fundamental Rights and Freedom, it would go a long way towards mitigating these types of disputes.

11.2 The European Charter of Fundamental Rights

It should be acknowledged that the Charter's relationship with intellectual property law was ambiguous until relatively recently. An example of that ambiguity can be observed in the Directive 2004/48/EC on the enforcement of intellectual property rights (Enforcement Directive) which was issued by the European Parliament and Council of Europe in 2004⁸⁹¹. According to the recitals the underlying legal justification for that Directive was based upon the freedom of

⁸⁹⁰ Wathetet Opinion p 1

⁸⁹¹ Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights. Recitals 8-10

movement of goods.⁸⁹² That the free movement of goods was used to justify this directive is not at all unexpected, as ever since they were introduced in the original Treaty of Rome the freedom of movement of capital, people, goods and service provision have been used by European Union (EU) lawmakers to justify most expansions of European Union Law.⁸⁹³ What was somewhat unexpected was that; the initial Charter of Fundamental Rights of the European Union⁸⁹⁴ received only a passing mention as something which should be respected in that Directive.⁸⁹⁵

The relatively insignificant role of the Charter in the Enforcement Directive is unexpected because; there was a considerable amount of effort expended to create and proclaim the Charter just three years earlier, and it included specific references to intellectual property rights as one of the rights in the list of fundamental rights which were protected by it. Given this effort, and the specific mention of intellectual property rights, it would have appeared entirely appropriate for the Enforcement Directive to invoke the Charter as a secondary, if not primary foundation for its legal justification. The main reason why this invocation did not occur can be directly related to questions about legal status of the Charter.

Whilst its status should have been resolved shortly after its proclamation,⁸⁹⁶ it in fact remained unresolved for many years after the Enforcement Directive was issued. It was as a direct result of this uncertainty, that two years after its proclamation the European Parliament took the unusual step of passing a resolution which simultaneously admitted that 'the Charter is not directly justiciable' whilst at the same time describing how 'The Commission is determined to regard the Charter as binding upon itself'.⁸⁹⁷ As this contradiction still prevailed when the Enforcement Directive was issued, it was perhaps only prudent not to use it as a legal foundation for EU directives, until the uncertainty of its legal status was resolved.

That said, prudence does not explain the failure to reference any of the precedents which established the superiority of fundamental rights over fundamental freedoms, in EU case law for a foundation.⁸⁹⁸ Logically until such a time as the legal status of the Charter was resolved, these cases represented the dominate and binding legal obligation with respect to the role of fundamental rights in the EU law. A role which by definition should be acknowledged as a foundational cornerstone to any EU legislation. That these cases were ignored would tend to suggest that it may not have been just prudence which was the determining factor in the minor role played by the Charter, but it may reflect an attitude of condescension towards fundamental rights in EU legislation. This condescension, if it did exist, was more than likely being driven by

⁸⁹² Enforcement Directive (n 1) Prologue

⁸⁹³ Treaty of Rome

⁸⁹⁴ Charter of Fundamental Rights of the European Union, proclaimed in Nice, 7 December 2000 (Official Journal C 364, 18.12.2000)

⁸⁹⁵ 2004/48/EC para 32

⁸⁹⁶ OJ C 223, 8.8.2001, p. 74 European Parliament decision approving the draft Charter of Fundamental Rights of the European Union (C5-0570/2000) Para D 'whereas the European Parliament will address the question of the Charter's legal character at its part-session of 29 and 30 November 2000'

⁸⁹⁷ OJ C 300, 11.12.2002 European Parliament resolution on the Impact of the Charter of Fundamental Rights of the European Union and its future status (2002/2139(INI)) Para. Q

⁸⁹⁸ See for example: 5/88 Wachauf (1989) ECR 2609 – Which established that when Member States were implementing EU law they were bound to respect EU fundamental rights.

the ideological portrayal of the European Convention on Human Rights⁸⁹⁹ and by extension the Charter as a "villain's charters".⁹⁰⁰

Regardless of why the Charter, and fundamental rights in general, were granted such a diminutive role in the Enforcement Directive, subsequent events indicate that this neglect may soon become history. The reason why it might become history is because in the ten years since the issuing of the enforcement directive: the legal status of the Charter and its application to intellectual property rights; have significantly advanced in a manner which has established the Charter as having legal superiority to both EU and Member State intellectual property law.

The Charter was established as a superior EU law by the Lisbon Treaty which was signed in December of 2007, eventually ratified by all Member States in November of 2009, and which came into force on December 2009.⁹⁰¹ There are three key declarations which are included in this Article, the first of which is that the Charter 'shall have the same legal value as the Treaties', the second that 'the Charter shall not extend in any way the competences of the Union as defined in the Treaties' and the third that 'The rights, freedoms and principles in the Charter shall be interpreted in accordance with the general provisions in Title VII of the Charter'⁹⁰²

The statement that the Charter "shall have the same legal value as the Treaties" is obviously the most significant statement in terms of the legal status of the Charter. By putting the Charter on the same level as the Treaty this statement elevates the Charter from a mere declaration of rights, to a legally binding source of primary EU law. This supremacy of Treaty Articles can be traced back to what many consider to be a landmark case in EU law,⁹⁰³ which is referred to as *Van Gend en Loos*.⁹⁰⁴ In that case the European Court of Justice (ECJ), now the Court of Justice of the European Union (CJEU), ruled that provisions of the Treaty Establishing the European Economic Community were capable of creating legal rights which could be enforced by both natural and legal persons before the courts of the Community's member states. A principle which is now called the "direct effect". The key paragraph in that ruling reads as follows:

'The Community constitutes a new legal order of international law for the benefit of which the states have limited their sovereign rights, albeit within limited fields and the subjects of which comprise not only member states but also their nationals. Independently of the legislation of member states, community law therefore not only imposes obligations on individuals but is also intended to confer upon them rights which become part of their legal heritage. These rights arise not only where they are expressly granted by the treaty, but also by reason of obligations which the treaty imposes in a

⁸⁹⁹ Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR)

⁹⁰⁰ See for example: Michael Peel, *Little love for a 'villains' charter' in a land of unwritten rules*, (Financial Times, July 24, 2006); Lieve Gies, *A Villains' charter? the press and the human rights act*, Crime, Media, Culture, 2011, 7 (2) pp. 167-183; Leo Mckinstry, *Human rights act has become the villain's charter*, (Express Oct. 3, 2011);

⁹⁰¹ Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007 (Official Journal C 306, 17.12.2007, p.1)

⁹⁰² *Id.* Art (6)

⁹⁰³ Craig, Paul; de Búrca, Gráinne (2003). *EU Law: Text, Cases and Materials* (3rd ed.). Oxford University Press. p. 182. ISBN 0-19-924943-1. "The ECJ first articulated its doctrine of direct effect in 1963 in what is probably the most famous of its ruling."

⁹⁰⁴ Case 26/62, *NV Algemene Transporten Expeditie Onderneming van Gend en Loos v Nederlandse Administratie der Belastingen* [1963] ECR 1

clearly defined way upon individuals as well as upon the member states and upon the institutions of the community." Judgment of the Court of 5 February 1963.⁹⁰⁵

Obviously after the Charter was raised to the level of Treaties, this ruling is now just as consequential for Charter Articles as it has been for Treaty Articles.⁹⁰⁶ Insofar as that is the case; this requires that all secondary EU laws and member state laws must adhere to the Charter when those laws are implementing EU law.⁹⁰⁷ While this adherence does not automatically apply to autonomous Member State laws, the principle of *effectiveness* which is enshrined in Article 19 (1) TEU which requires that 'Member States shall provide remedies sufficient to ensure effective legal protection in the fields covered by Union Law'⁹⁰⁸ should ensure that the protections provided under the Charter do not become 'an empty promise'.⁹⁰⁹ This principle of *effectiveness* having been regularly stated by the CJEU⁹¹⁰ is also stated under Article 47 of the Charter which governs individual rights to an effective remedy and a fair trial. Which is not to suggest that when Member State implementing their own intellectual property laws, it does not fall under the category of implementing EU laws, rather that even if they were not considered to be implementing EU laws, they would still have to maintain the effectiveness of the Charter protections when applying those laws.

As to whether Member States are 'implementing EU law' when their courts are deciding intellectual property cases, this would appear to be a relatively straight forward proposition, as the Enforcement Directive⁹¹¹ which requires a consistent treatment of intellectual properties across Member States in order to promote the internal market,⁹¹² is a EU law which must be implemented in Member states. The EU competence being further evidenced by the major works detailing the role of the EU law in specific intellectual property cases,⁹¹³ an important example of which provided by Huawei v ZTE, mentioned above.

Assuming it is accepted that Member States must adhere to the protections provided in the Charter when implementing of intellectual property law, this naturally leads to an analysis of what consequences the Charter has on that implementation. This analysis will be broken into five parts. The first part will provide a general overview of the Charter, the second an analysis of the articles which protect intellectual property, the third the Charter's implications for royalty rates, the fourth a quick discussion of state liability, and the fifth a proposal for testing the analysis.

⁹⁰⁵ Note 235

⁹⁰⁶ Koen Lenaerts and Jose Antonio Gutierrez, *The Place of the Charter in EU Constitutional Edifice*, in Steve Peers, Tamara Hervey, Jeff Kenner, and Angela Ward, *The EU Charter of Fundamental Rights: A Commentary* (Hart Publishing 2014) p 1560

⁹⁰⁷ *Id.* p 1561-2 citing: Explanation relating to the Charter of Fundamental Rights, [2007] OJ C303/17

⁹⁰⁸ Art19 (1) Treaty European Union

⁹⁰⁹ Lenaert and Gutierrez, *The place of the Charter* p 1565

⁹¹⁰ *Id.* citing: Case 222/84 Johnston [1986] ECR 1651, Case 222/86 Heylens [1987] ECR 4097, Case C-07/91 Borelli [1992] ECR I-6313, and Case C-279/09 DEB [2010] ECR I-13849.

⁹¹¹ DIRECTIVE 2004/48/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the enforcement of intellectual property rights (Text with EEA relevance) 29/04/2004 OJ L 157, 30.4.2004, p. 45–86

⁹¹² *Id.* paragraphs 3, 7-9

⁹¹³ Trevor Cook, *EU Intellectual Property Law*, Oxford University Press 2010

11.2.1 Overview of the Charter

The Charter itself is made up of a preamble and fifty-four Articles. The Articles incorporated in the Charter, representing the actual law being enacted. Of these Articles, the first fifty describe the various rights, freedoms and principles to be protected which are grouped under six Titles; (1) Dignity, (2) Freedoms, (3) Equality, (4) Solidarity, (5) Citizen's rights and (6) Justice. The last four articles describe general provisions on how these rights, freedoms and principles are to be applied.

As with all EU law, the preamble is used to outline the general spirit or intent of the law being enacted and is incorporated into all EU law to prevent an unjust interpretation of the law resulting from an unintended strict reading of the underlying law. While the preamble is more significant in terms of providing guidance on a general interpretation, there is included in the preamble one sentence which provides a such a clear indication on how the Charter should be applied to all rights, that it deserves to be included in an analysis of a strict interpretation of the Charter. That key sentence reads as follows;

'Enjoyment of these rights entails responsibilities and duties with regard to other persons, to the human community and future generations.'⁹¹⁴

Regardless of the judicial ideology there can be no doubt that this sentence is meant to indicate that there is no such thing as an absolute right, and the enjoyment of rights are restricted by a responsibility and duty, to use them in a manner which takes account of how that use would affect others. At a minimum these responsibilities and duties must require that rights holders not use their rights in a manner which intentionally and unjustly harms others or the rights of others, as such malicious behaviour would negate any responsibilities or duties. It would also likely include any action which treats the rights of others as subordinate to the rights of other similar rights holders, as such behaviour would imply a superiority of one right holder over another in breach of the principle of equality before the law. It would not however include a blanket prohibition against doing harm to others, as there are undoubtedly circumstances where the exercise of a right will restrict the rights of others, which may be considered to a harm to those rights. Those restrictions would obviously not be unjust, so long as it did not place the rights of a rights holder, above the rights of the property rights being restricted.

Whether this sentence entails more than a requirement to abstain from intentional and unjust harm is of course a much more complicated question. There are some rights which clearly should have priority over other rights. For example, Title I includes; the right to life, the prohibition of torture and the prohibition on slavery, all of which should have priority over the freedom to conduct a business or the right to property. Fortunately, a discussion of the priority of all rights is beyond the scope of this thesis, as it merely seeks to merely address the issue of the treatment of intellectual property rights between intellectual property owners, which because of this Charter are endowed with identical rights which entail identical responsibilities and duties. Viewed from this context the Charter represents a shield rather than a sword in terms of determining how intellectual property rights should be treated under EU law.

⁹¹⁴ The Charter, Preamble

11.2.2 Articles Protecting Intellectual Property

Because the Charter has several Articles which have implication for the implementation of intellectual property law, this analysis will deal with each of the relevant Articles individually. Each individual analysis will commence with the text of the Article and the test of the EU Explanatory Notes which covers the Articles.⁹¹⁵ This will be followed by a discussion of the implication and comments on how the article relates to an application of the correlated rights doctrine.

Article 16

Freedom to Conduct Business

The freedom to conduct a business in accordance with Union law and national laws and practices is recognised.

Explanation on Article 16 — Freedom to conduct a business

This Article is based on Court of Justice case-law which has recognised freedom to exercise an economic or commercial activity (see judgments of 14 May 1974, Case 4/73 Nold [1974] ECR 491, paragraph 14 of the grounds, and of 27 September 1979, Case 230-78 SpA Eridiana and others [1979] ECR 2749, paragraphs 20 and 31 of the grounds) and freedom of contract (see inter alia Sukkerfabriken Nykøbing judgment, Case 151/78 [1979] ECR 1, paragraph 19 of the grounds, and judgment of 5 October 1999, C-240/97 Spain v Commission [1999] ECR I-6571, paragraph 99 of the grounds) and Article 119(1) and (3) of the Treaty on the Functioning of the European Union, which recognises free competition. Of course, this right is to be exercised with respect for Union law and national legislation. It may be subject to the limitations provided for in Article 52(1) of the Charter.

The freedom to conduct business is sourced from the constitutional traditions of the Member states, which is implied by the constitutional rights to property and to work.⁹¹⁶ It can be viewed as an EU effort to emphasis a shift in Europe away from a national political economy to a more market based economy where individuals have greater freedom to engaging in commercial activities⁹¹⁷ Which more plainly can be described as an effort to shift away from government involvement and interference in commercial activities. A central tenant of this freedom is the concept of economic autonomy for private businesses within the boundaries of the legal and economic framework which defines the European Economic Constitution.⁹¹⁸ The most notable boundaries being those provide under European competition laws,⁹¹⁹ State aid laws,⁹²⁰ the free

⁹¹⁵ The explanatory notes are included in EXPLANATIONS RELATING TO THE CHARTER OF FUNDAMENTAL RIGHTS (2007/C 303/02) O

⁹¹⁶ Michele Everson and Rui Correia Goncalves, *Article 16*, in Steve Peers, Tamara Hervey, Jeff Kenner, and Angela Ward, *The EU Charter of Fundamental Rights: A Commentary* (Hart Publishing 2014) p 438

⁹¹⁷ *Id.* p 439

⁹¹⁸ *Id.* p 441

⁹¹⁹ TFEU Articles 101 and 102

⁹²⁰ TFEU Articles 107 and 108

movement of goods,⁹²¹ and the freedoms of work, establishment, services and capital.⁹²² While the Charter has enshrined the freedom to do business as a right, there is already an extensive record of the CJEU extrapolating this freedom in conjunction with the right to work and constitutional principles,⁹²³ and as such the Charter merely codifies these rights.

As indicated in the pre-ambles this freedom also had to be balanced against all the other various rights provided in the Charter. This limitation being evident in the case of *Sky Österreich* where Advocate General Bot stated that:

'It is clear from the case-law of the Court that the right to property, like the right freely to exercise an economic activity, is one of the general principles of law of the Union. However, those principles are not absolute but must be viewed in relation to their social function. Consequently, restrictions may be imposed on use of the right to property, and the right to freely pursue an economic activity, provided that those restrictions correspond to objectives of general interest pursued by the Union and do not constitute, with regard to the objective pursued, a disproportionate and intolerable interference affecting the very substance of the rights thus guaranteed.'⁹²⁴

A limitation which is also confirmed in Article 52(1) of the Charter.⁹²⁵ Further limitation on the freedom of business flow from a recognition of the need to regulate business for the general good of the citizens of the EU.⁹²⁶

Despite these limitations the inclusion of the Article 16 in the Charter does increase the ability of EU individuals to rely on this right; not only to do business, but on how to do business. A key aspect of this protection involves the need to provide businesses with a degree of certainty in regard to their own economic planning.⁹²⁷ This protection is particularly significant to intellectual property owners who engage in the business of developing, patenting and licensing innovation. Clearly in order to provide businesses with certainty in terms of their economic planning, they need to have confidence that the judiciary will deal with any disputes that they have in an efficient and consistent manner.

Another protection implied by the inclusion of the freedom to do business is the notion of contractual autonomy,⁹²⁸ which presumably provide businesses with the freedom to negotiate any contract terms within the limitation described earlier, without being subject to government interference. Naturally one of most important terms that they will negotiate will be the price of the products which they are selling. This autonomy should be equally applicable to all businesses, including intellectual property licensing businesses. The caveat being that licensing terms must abide by competition law considerations and be balanced against the Charter rights of others, including other intellectual property owners. All of which could be facilitated by a requirement to apply the correlated rights doctrine, which has precisely the same intent.

⁹²¹ TFEU Article 30

⁹²² TFEU Articles 45, 49, 56 and 63

⁹²³ Everson and Gonçalves, *Article 16*, p 442

⁹²⁴ Case C-283/11 *Sky Österreich GmbH v Österreichischer Rundfunk* Opinion of the A G Bot [29] ECLI:EU:C: 2013:28

⁹²⁵ Everson and Gonçalves, *Article 16*, p 449

⁹²⁶ *Id.* p 452

⁹²⁷ *Id.* p 453

⁹²⁸ *Id.* p 457

Article 17

The Right to Property

1. Everyone has the right to own, use, dispose of and bequeath his or her lawfully acquired possessions. No one may be deprived of his or her possessions, except in the public interest and in the cases and under the conditions provided for by law, subject to fair compensation being paid in good time for their loss. The use of property may be regulated by law in so far as is necessary for the general interest.

2. Intellectual property shall be protected.

Explanation on Article 17 — Right to property

This Article is based on Article 1 of the Protocol to the ECHR:

‘Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.

The preceding provisions shall not, however, in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties.’

This is a fundamental right common to all national constitutions. It has been recognised on numerous occasions by the case-law of the Court of Justice, initially in the *Hauer* judgment (13 December 1979, [1979] ECR 3727). The wording has been updated but, in accordance with Article 52(3), the meaning and scope of the right are the same as those of the right guaranteed by the ECHR and the limitations may not exceed those provided for there.

Protection of intellectual property, one aspect of the right of property, is explicitly mentioned in paragraph 2 because of its growing importance and Community secondary legislation. Intellectual property covers not only literary and artistic property but also inter alia patent and trademark rights and associated rights. The guarantees laid down in paragraph 1 shall apply as appropriate to intellectual property.

Before moving on to an analysis of this Article it is worth pointing out that paragraph two explicitly identifies intellectual property as a type of property that is protected by the Charter. According to the EU explanation this explicit inclusion was deemed necessary, "because of its growing importance". It should also be pointed out according to the EU explanation, the guarantees provided in the first paragraph equally apply to all properties, including intellectual properties.

Unlike the freedom to conduct business, the right to property has a long history in international and Member State constitutions.⁹²⁹ Property rights can be defined as a legal phenomenon,⁹³⁰ and the CJEU has defined property rights 'rights with an asset value creating an established legal position under the legal system, enabling the holder to exercise those rights

⁹²⁹ Ferdinand Wollenschläger, *Article 17 (1)*, in Steve Peers, Tamara Hervey, Jeff Kenner, and Angela Ward, *The EU Charter of Fundamental Rights: A Commentary* (Hart Publishing 2014) p 468-470

⁹³⁰ *Id.* p 472

autonomously and for his benefit'.⁹³¹ In evaluating intellectual property it is clear that they do have an established legal position and as such the intellectual property rights should 'not be regarded as constituting mere commercial interest or opportunity, but as having an asset value'.⁹³²

Significantly the right to property not only provide protection against negative and unwarranted Member State interference, it also places a positive obligation on them to provide the administrative and legal protection administer to ensure the enjoyment of property.⁹³³ This positive obligation is naturally of a much greater consequence for intellectual properties, as their intangible qualities means that owners are almost wholly reliant on legal institutions to ensure their enjoyment.

This does not mean that intellectual property rights cannot be either derogated or limited through regulation. These possibilities being stated in sentences 2 and 3 of the first paragraph of the Article. Deprivation of property being defined as a formal expropriation of property 'which may be based on legislative acts or measures implementing them, i.e. a measure completely and permanently depriving the owner of his/her property'.⁹³⁴ The court taking this one step further by suggesting that deprivation only occurs when the property is transferred to another entity.⁹³⁵ From an intellectual property prospective, again because of the intangible nature of knowledge and the ability to maintain that knowledge when there is an infringement this must mean that a deprivation must occur; not only when the legal title to the intellectual property is transferred to another entity, but when another entity is allowed to use the property with compensating the owner. Which is to suggest that if the legal system allows the unauthorised use of an intellectual property without consideration being granted, it would be a deprivation of the owner's property.

The proposition that denying an intellectual property owner the possibility of profiting from their intellectual property is tantamount to depriving that owner of their intellectual property being clearly articulated in the Case C-177/10 *Luksan*⁹³⁶ In that case the director of a documentary was challenging an Austrian copyright regulation⁹³⁷ that presumed that the exclusive rights for commercial exploitation of documentary were originated with the producer of the film in contradiction to EU directives⁹³⁸ which claimed those exclusive rights resided with the director. In that case both; the Opinion of the Advocate General⁹³⁹ and Judgement of the Court relied upon protections provided by art (17) to make their recommendations⁹⁴⁰ and rulings.⁹⁴¹ The final ruling including the following statement:

⁹³¹ Case C-283/11 *Sky Österreich Gmbh v Österreichischer Rundfunk* (ECJ, 22 January 2013) [34]

⁹³² *Id.* [35]

⁹³³ Wollenschläger, *Article 17 (1)*, p 476

⁹³⁴ *Id.* 470, citing C Calliess and M Ruffert (eds) *EUV/EGV* 4th Edn (Munich, CH Beck 2011)

⁹³⁵ Joined Cases C-20/00 and C-64/00 *Booker Aquaculture and Hydro Seafood* (2003) ECR I-7411 [58] and more specifically opinion of AG [93]: 'We are, in such a case, poles apart from the appropriation of a private person's property by the public authority, such as the compulsory purchase of a building. There is *no transfer of ownership* in property of definite economic value to satisfy a need in the general interest.'

⁹³⁶ Case C-277/10 *Martin Luksan v Petrus van der Let* (CJEU 9 February 2012) [2012] ECLI:EU:C: 2012:65

⁹³⁷ Austrian Federal Law on copyright in works of literature and art and related rights (Urheberrechtsgesetz; 'the UrhG')

⁹³⁸ Satellite and Cable Directive (93/83/EEC); InfoSoc Directive (2001/29/EC); Rental and Lending Rights Directive (2006/115/EC)

⁹³⁹ Case C-277/10 *Martin Luksan v Petrus van der Let*, Opinion of A G Trstenjak (6 September 2011) [2011] ECLI:EU:2011:545

⁹⁴⁰ *Id.* [131-133]

⁹⁴¹ Case C-277/10 *Luksan* [68]

'the fact that national legislation denies him the exploitation rights at issue would be tantamount to depriving him of his lawfully acquired intellectual property right.'⁹⁴²

According to the second sentence of Art 17(1) such deprivation can only be justified if three criteria are met: the first criteria being that it is in the public interest, the second that it is done under conditions provided for by law and the third being a requirement that there is fair compensation paid for the loss.

While the first criteria depend on a highly contentious definition of public interest, it cannot be the case that allowing an unauthorised use of intellectual property without compensation would be in the public interest merely because it kept down the price of a technological product.

The second criteria would be equally disqualifying in that there is nowhere in intellectual property law or any other EU law in which the conditions for deprivation of intellectual property addressed, let alone addressed in sufficiently precise manner which would provide intellectual property owners the clarity they need to anticipate such deprivations.⁹⁴³

The third criteria of course raise the possibility of the Member States providing proportionally compensation for such deprivation, if it is in the public good and precisely defined from a legal basis. Obviously without such compensation it cannot be justified.

Deprivation is naturally entirely different from regulating the use of property, which can be broadly interpreted as measures limiting the use of property rights,⁹⁴⁴ which do not require compensation. A good description of the limitation on such regulations being stated by AG Bot:

'In line with this case-law, Article 52(1) of the Charter lays down the rules relating to the limitations that can be made to the rights and freedoms recognized by the Charter. Article 52(1) thus accepts that limitations may be imposed on the exercise of rights such as the right to property and the freedom to conduct a business set out in Articles 17 and 16 of the Charter, as long as the limitations are provided for by law, respect the essence of those rights and freedoms and, in compliance with the principle of proportionality, are necessary and genuinely meet objectives of general interest recognised by the European Union or the need to protect the rights and freedoms of others.'⁹⁴⁵

The justification for regulation of property identified by AG Bot reflecting a requirement set out in the third sentence of Article 17(1), which establishes a prerequisite that the regulation be in the public interest, which in turn requires that those interests be sufficiently precise and proportional. Proportionality being determined by a three-step approach: which requires there to be a legitimate objective, the regulations be the least intrusive method of achieving the objective and that it be the limitation be proportional to the objective.⁹⁴⁶

The legitimacy of an objective can be derived first and foremost from the four freedoms of the EU specified in the TFEU and the aims specified under Art (3) TEU and. Include amongst other

⁹⁴² *Id.* [70]

⁹⁴³ *Id.* p 479

⁹⁴⁴ *Id.* p 477

⁹⁴⁵ Case C-283/11 *Sky Österreich*, AG Bot [30]

⁹⁴⁶ Wollenschläger, *Article 17 (1)*, p 481-482

aims in Art (3) TEU are: offering its citizens and area of freedom, security and justice⁹⁴⁷ establishing an internal market with balanced economic growth which is both stable and competitive, promoting the social cohesion and solidarity,⁹⁴⁸ protecting its citizens, and promoting fair and free trade.⁹⁴⁹

With respect to the ability of the regulation to achieve the intended objective in the least intrusive manner, this criterion essentially relies on an assessment of the alternative regulatory methods which can achieve the objective, to determine which is the least intrusive.⁹⁵⁰

Finally, the test of proportionality of the limitation in term of the objective, relies on balancing negative effect of those limitation on the benefits which are enjoyed as a result of meeting the objective. In according to this balance, the greater to public good the greater the possibilities for intervention.⁹⁵¹

Interestingly prior to the Charter being raised to the level of a treaty the court had been reluctant to rule against measures, unless they were apparently unsuitable or apparently inappropriate.⁹⁵² The question of how the Charter will affect this tradition is still in the process of being determined, however if the opinion of AG Bot in *Sky Österreich* sets the standard it may well be that this reluctance may be a thing of the past. This because the methodology he used to assess the regulatory measure being challenged thoroughly examined all three of the proportional criteria.⁹⁵³

From an intellectual property prospective or more specifically from an application of the correlated rights doctrine prospective, given that applying the correlated rights doctrine would effectively limit the rights of intellectual property owners it would appear prudent to subject it to a similar analysis. it should be recalled that the correlated rights doctrine as it applies to intellectual property has been earlier defined as;

'When separately owned intellectual properties are determined to be inherently integrated with other intellectual properties, the individual property owners shall have proportional property rights with respect to the whole property and shall not disproportionately enrich themselves to the detriment of the other intellectual property owners.'⁹⁵⁴

With respect to a legitimate objective, clearly this interpretation of existing intellectual property law would fall into any number of aims provided for under Article (3) TEU and could also be justified by at least two of the fundamental freedoms. To the extent that it ensures intellectual property owners are properly rewarded for their creative efforts, it offers citizens an area of justice. The same can be said about helping to establish an internal market which is both stable and competitive, protecting the rights of citizens and promoting fair and free trade. Not to mention the benefits of encouraging economic growth as have been outlined in the

⁹⁴⁷ TEU Art (3) [2]

⁹⁴⁸ TEU Art (3) [3]

⁹⁴⁹ TEU Art (3) [5]

⁹⁵⁰ Wollenschläger, *Article 17 (1)*, p 482 Citing Case C 265/87 Hermann SchröHS Kraftfutter GmbH & co. KG v Hauptzollamt (1989) ECR 2237 and others

⁹⁵¹ *Id.* citing C-317/00 Invest Import and Export GmbH and Invest Commerce SARL v Commission of the European Communities [2000] ECR I-9541 [60]

⁹⁵² *Id.* 484

⁹⁵³ Case C-283/11 *Sky Österreich*, Opinion of AG Bot [47-70]

⁹⁵⁴ Chapter 8

conclusion of the thesis. From a fundamental rights' prospective it would help to ensure the free movement of goods and the free movement of capital.

As to the suitability of an application of the doctrine, there can be little doubt that its application will help to achieve the objectives and it is certainly less intrusive than the creation of a new set of regulations which would have the same intent.

Finally, in balancing the aims of the application, with the external effects of an application. To do this balancing test the first thing which is required would be to detail those external effects. The first effect is that it would prevent intellectual property owners from overcharging for the value of their intellectual property, which obviously is a positive, not a negative effect. The second effect is that it would likely result in an increase in the price of technological products, as its application would allow smaller intellectual property owners to more easily conclude licensing agreements which reflect the value of their contribution to an integrated technological product. While such an increase would have implication for consumer protection, protecting consumers from paying fair value for technological products does not appear like something which would shift the balance in favour of overruling an application of the doctrine. That said if the intellectual property is essential to either the health of EU citizens or the freedom to do business of users there is a strong case that can be made for limiting royalties below a level which would be consistent with the value of the intellectual property. Such limitations differing markedly from an absolute deprivation of intellectual property rights.

Article 47

Right to an Effective Remedy and to a Fair Trial

1. Everyone whose rights and freedoms guaranteed by the law of the Union are violated has the right to an effective remedy before a tribunal in compliance with the conditions laid down in this Article.
2. Everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal previously established by law. Everyone shall have the possibility of being advised, defended and represented.
3. Legal aid shall be made available to those who lack sufficient resources in so far as such aid is necessary to ensure effective access to justice.

Explanation on Article 47 — Right to an Effective Remedy and to a Fair Trial

The first paragraph is based on Article 13 of the ECHR:

'Everyone whose rights and freedoms as set forth in this Convention are violated shall have an effective remedy before a national authority notwithstanding that the violation has been committed by persons acting in an official capacity.'

However, in Union law the protection is more extensive since it guarantees the right to an effective remedy before a court. The Court of Justice enshrined that right in its judgment of 15 May 1986 as a general principle of Union law (Case 222/84 Johnston [1986] ECR 1651; see also judgment of 15 October 1987, Case 222/86 Heylens [1987] ECR 4097 and judgment of 3 December 1992, Case C-97/91 Borelli [1992] ECR I-6313).

According to the Court, that general principle of Union law also applies to the Member States when they are implementing Union law. The inclusion of this precedent in the Charter has not been intended to change the system of judicial review laid down by the Treaties, and particularly the rules relating to admissibility for direct actions before the CJEU. The European Convention has considered the Union's system of judicial review including the rules on admissibility and confirmed them while amending them as to certain aspects, as reflected in Articles 251 to 281 of the Treaty on the Functioning of the European Union, and in particular in the fourth paragraph of Article 263. Article 47 applies to the institutions of the Union and of Member States when they are implementing Union law and does so for all rights guaranteed by Union law.

The second paragraph corresponds to Article 6(1) of the ECHR which reads as follows:

‘In the determination of his civil rights and obligations or of any criminal charge against him, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law. Judgment shall be pronounced publicly but the press and public may be excluded from all or part of the trial in the interests of morals, public order or national security in a democratic society, where the interests of juveniles or the protection of the private life of the parties so require, or to the extent strictly necessary in the opinion of the court in special circumstances where publicity would prejudice the interests of justice.’

In Union law, the right to a fair hearing is not confined to disputes relating to civil law rights and obligations. That is one of the consequences of the fact that the Union is a community based on the rule of law as stated by the Court in Case 294/83, ‘*Les Verts*’ v European Parliament (judgment of 23 April 1986, [1986] ECR 1339). Nevertheless, in all respects other than their scope, the guarantees afforded by the ECHR apply in a similar way to the Union.

With regard to the third paragraph, it should be noted that in accordance with the case-law of the European Court of Human Rights, provision should be made for legal aid where the absence of such aid would make it impossible to ensure an effective remedy (ECHR judgment of 9 October 1979, *Airey*, Series A, Volume 32, p. 11). There is also a system of legal assistance for cases before the Court of Justice of the European Union.’

This Article is included in the analysis of the implications of the Charter on the application of the correlated rights doctrine because "legal attrition" has been a major tool used by technological product manufacturers to drive down the cost of licensing intellectual property which is inherently integrated in their product. Essentially because most technological manufacturers have significant financial and legal resources, they can force those intellectual property owners to choose between two adverse options. They can either accepting royalties which are substantially below the value of their intellectual property contribution or engaging in a protracted and expensive legal proceeding. If those intellectual property owners do not have the financial and legal resources to engage in those protracted legal proceeding, they have little

choice but to except the undervalued licensing terms proposed by the manufacturer. Assuming the multinational manufacturers are even willing to offer terms.

The inclusion of this Article in the Charter therefore guarantees that breaches of the protections provided by the Charter will be provided an effective remedy, although those protections do not appear to have an independent meaning.⁹⁵⁵

The right to an effective remedy and a fair trial is well established in the corpus of international and national human rights laws.⁹⁵⁶ Any State that breaches the human rights and freedoms included in the Charter 'has a primary duty to afford the redress to the victims of the violation and in general this redress should provide restitution of the infringed rights or freedoms.'⁹⁵⁷ In cases where the adequacy of the restitution is disputed the State shall bear to responsibility of proving that the remedies are sufficient.⁹⁵⁸

Further, the right to a fair trial relies on the principle of equality of legal representation.⁹⁵⁹ The general expectation being that each side 'must have a bona fide opportunity to have his case tested on its merits and, if appropriate, to obtain redress.'⁹⁶⁰ This right to present a case can be subject to limitations which are intended to ensure an efficient provision justice, so long as those provision do not restrict the exercise of rights in such a way that the essence of the right is impaired.⁹⁶¹

As the speed of a trial can have consequences on the effectiveness of a remedy; the Courts have required not only the hearing, but the judgement of the case is required to be completed within a reasonable time.⁹⁶²

Under EU law the right to an effective judicial remedy has been a recognised principle essential for ensuring the rule of law and the primacy of EU law.⁹⁶³ Without this right the "direct effect" of EU law would in jeopardy. As at in the very early stage of the Community the ECJ has required that Member States provide 'direct and immediate protection' of rights arising from EC law.⁹⁶⁴ A requirement which is now codified under Art 47 of the Charter. The right of fair trial can be considered an accessory right in that it only is required when another right included in the Charter needs to be protected.⁹⁶⁵

Under EU law an effective remedy must insure that it offers protection against 'any provisions of a national legal system and any legislation administrative or judicial practice which might impair the effectiveness of EU law'.⁹⁶⁶ Effective remedies should ensure rights and freedoms included in the charter are respected. The most substantive remedy available under EU law requires that Member States make good on damages which have resulted from the lack of

⁹⁵⁵ Angela Ward, *Article 47, (I)* in Steve Peers, Tamara Hervey, Jeff Kenner, and Angela Ward, *The EU Charter of Fundamental Rights: A Commentary* (Hart Publishing 2014) p 1199

⁹⁵⁶ Dinah Shelton, *Article 47, (II)* in Steve Peers, Tamara Hervey, Jeff Kenner, and Angela Ward, *The EU Charter of Fundamental Rights: A Commentary* (Hart Publishing 2014) p 1200

⁹⁵⁷ *Id.* p 1201

⁹⁵⁸ *Id.* p 1202

⁹⁵⁹ *Id.* p 1205

⁹⁶⁰ *Id.* p 1206 citing: *Leander v Sweden* (1987) ECHR Series A no 116

⁹⁶¹ *Id.* p 1206 citing: *Ashingdane v United Kingdom*, (1985) Series A no 93 " p24-25

⁹⁶² *Id.* p 1207

⁹⁶³ Herwig CH Hofmann, *Article 47 (III)* in Steve Peers, Tamara Hervey, Jeff Kenner, and Angela Ward, *The EU Charter of Fundamental Rights: A Commentary* (Hart Publishing 2014) p 1211

⁹⁶⁴ *Id.* 1212 Citing: *Case 13/68 Salgoil* (1968) ECR 453, 463

⁹⁶⁵ *Id.* 1215

⁹⁶⁶ *Id.* p 1215 citing: *Case-231/99 Factortame*, (1990) ECR I-2433 [19-20]

protection of rights provide in the Charter.⁹⁶⁷ The proceedings and procedures which define a fair trial are to be determined by a Member States, subject to a general requirement 'of good administration and legal certainty, and the principles of effective legal protection'⁹⁶⁸ Finally under EU law an unnecessary delay the length of proceedings can render a remedy ineffective.⁹⁶⁹

Putting this analysis in the context of trials involving intellectual property disputes it appears self-evident that protracted legal proceeding endangers the provision of an effective legal remedy, particularly if those protracted proceeding are instigated on the part of a litigant which has an overwhelming advantage in terms of financial and legal resources.

Article 54 **Abuse of Rights**

Nothing in this Charter shall be interpreted as implying any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms recognised in this Charter or at their limitation to a greater extent than is provided for herein.

Explanation on Article 54 — Prohibition of abuse of rights

This Article corresponds to Article 17 of the ECHR:

Nothing in this Convention may be interpreted as implying for any State, group or person any right to engage in any activity or perform any act aimed at the destruction of any of the rights and freedoms set forth herein or at their limitation to a greater extent than is provided for in the Convention.

The inclusion this article in the Charter would appear to relate solely and specifically to the interrelation between the various rights and freedoms provided in the Charter,⁹⁷⁰ just as Article 17 of the ECHR has generally been enacted to restrict a human right in the name of another human right.⁹⁷¹ In order for Article 17 of the ECHR to be enacted there must be a clear link between the rights claimed and the damages to other rights.⁹⁷²

Given limited number of cases focused on Article 54 and the apparent lack of cases specifically related to the right to property, it cannot be authoritatively claimed that this article will protect the property rights of one owner property owner from the abuse of another's property rights. However, it would be counterintuitive to suggest that it did not.

As such it can be presumed that when an intellectual property owner is abusing their intellectual property rights to coerce integrated manufactures of technological product, who both own intellectual property and manufacture the technological product, to pay more to license their intellectual property than the value that the intellectual product contributes to the technological product would be a breach of this article. Particularly as the integrated technology manufacturer would use rewards that they would otherwise receive from their intellectual

⁹⁶⁷ *Id.* p 1219

⁹⁶⁸ *Id.* p 1219 citing: case C 362/09 *P Athinaiki v Commission* [2010] ECR I-13275 [70]

⁹⁶⁹ *Id.* p 1218

⁹⁷⁰ Lorna Woods, *Article 54*, in Steve Peers, Tamara Hervey, Jeff Kenner, and Angela Ward, *The EU Charter of Fundamental Rights: A Commentary* (Hart Publishing 2014) p 1539

⁹⁷¹ *Id.* p 1545

⁹⁷² *Id.* p 1546

property contributions to technological product to, subsidies the excessive licensing fees of the abusive owner.

Even if the technological manufacture does not contribute intellectual property to the technological product it could easily be considered a breach of the article as the excessive licensing fees would likely represent a breach of the manufacturers freedom to do business.

Likewise, if a manufacture is abusing the right to an effective remedy and a fair trial to drive down licensing cost below the value of an intellectual property owner's contribution to a technological product, this could easily be considered a breach of both the intellectual property owners, freedom to do business and their right to property.

As any of these actions would be a breach of an application of the correlated rights doctrine it would appear that any protection provided by this article with respect to these actions, could be considered to constitute a protection of application of the correlated rights doctrine.

11.2.3 Implications for Reasonable Royalties

The previous part of this chapter the general implications of the Charter on intellectual property law was done by individually analysing each of the most relevant articles. Using the insights gained from that analysis, this part will use a more holistic approach by analysing the protections which can be claimed from the Charter by both owners and users of intellectual properties. Particularly when a Member State court set damages and running royalties at substantially below or above the estimated range of value which the disputed intellectual property contributes to a technological product. This will be followed by an analysis of the potential claims which could be made under the Charter if a court applied that correlated rights doctrine when determining damages and running royalties.

Before going into the analysis of the protections provided by the Charter, it evident from the comments made in the Opinion of AG Wathelet that there still exists a lack of clarity as to the definition of FRAND and by extension reasonable royalties. This lack of clarity not being resolve in either his opinion or the ruling of the court. The courts stating that

'In the case in the main proceedings, the parties are not in agreement as to what is required by FRAND terms',⁹⁷³ and subsequently opaquely suggesting 'It is for the referring court to determine whether the abovementioned criteria are satisfied in the present case, in so far as they are relevant, in the circumstances, for the purpose of resolving the dispute in the main proceedings.'⁹⁷⁴

As some sort of reference point is needed for an analysis Charter's protection of royalty rates, a broad definition of reasonable royalties will be suggested and used. The suggested reference point is a range of rates which represent an estimate of the average value which that intellectual property provides to the end users. This reference point is suggested for two reasons. First because voluntary transactions between buyer and seller, (which are the cornerstone of a market-based economy), seldom exceed the price/value which buyers places on the product. And second because sellers seldom lower the price from what users are willing to pay unless they are subject to competitive pressures, pressure which an intellectual property owner does

⁹⁷³ Case C 170/13 Huawei v ZTE p 8

⁹⁷⁴ *Id.* p10

not face because of the monopoly position they are granted under intellectual property law. While as described below there may be reasons why a reasonable royalty rate could be set lower than average value which that intellectual property provides to the end users, this definition represents a standard from which such deviation should be required to be justified.

The most extreme situation in terms of setting rates below the range of value contributed by an intellectual property would be when the rate is set at zero. As discussed in the previous part, such a decision would likely be considered a deprivation of property as it would effectively permanently deprive an owner of all benefits of ownership and transfer those benefits to another entity, even if it did not deprive the owner of the actual ownership title. While it may be entirely possible that in state of emergency such a deprivation could be justified as being in the public interest, this would still require that there exist a specific law authorising the deprivation, and that fair compensation be provided to owner for their loss. If any of these criteria were not met the owner would almost certainly be entitled to protection under art. (17), which technically should mean the state would be liable for damages. An owner who was so deprived of his property would also almost certainly have a claim under art. (16) as it being unable to be rewarded for his innovation would be an intolerable interference effecting the owner's freedom to do business.

The more difficult question is; will this same deprivation protections apply if the rate is not set above zero but substantially below the value contributed to a technological product? Presumably if the rate is set at less than fifty percent of the value contributed, it could be argued that deprivation could still be claimed as the majority of the benefit of owning the property would still have been transferred to the infringer. This argument being supported by further claim that such a low rate would constitute an intolerable interference effecting the owner's freedom to do business.

However if rate was just slightly higher than fifty percent of the value contributed; it is unlikely that deprivation could be claimed, as the substantial benefit of the property would still be retained by the owner. In such instances it is more likely that any claim for protection under art. (17) would involve challenge to the legitimacy of a regulation or alternatively a challenge to the court's illegitimate interpretation of intellectual property law. It would be challenge to the regulation, if the regulation included specific language which authorised such rates, and a challenge to the interpretation if it did not. This challenge would require the state to show that the regulation or its interpretation was in the public interest, suitable for achieving that public interest and properly balanced the harm to the owner with the benefits to public interest. As described above, in many intellectual property disputes it would difficult to meet all of these conditions, but there are others in which they might be met, and there are at least two where they likely can be met. The first of which would where the intellectual property in question is essential to the health of EU citizens. In such a case the balance of harm would weigh heavily against the intellectual property owner. The second is when governments authorizes the creation of an industry standard, which by its nature effectively creates a government mandated monopoly in an industry. Whenever governments authorize the creation of a monopoly in an industry, it could be argued that this provides the government with greater authority to regulate prices to ensure the free movement of goods.

In addition to the right to property, there could also be an actionable claim for protection under the freedom to do business: As it could be argued that anything below the estimated range of value which can be attributed to the intellectual property, would be an intolerable

interference effecting the owner's freedom to do business. In addition, there would also be the possibility of making a claim for protection under art. (47), the right to an effective remedy, particularly if it could be shown that the remedy was a deviation from remedies in similar cases. Finally, there could be a claim protection under art (47) the right to a fair trial if it was clear that the legal resources of the infringer had; so overwhelmed the owner's legal resources that they could not properly prosecute their client's intellectual property rights.

In the circumstance where a Member State court sets rates substantially higher than the value of the intellectual property in dispute, it would be the infringer which would be claiming protection under the Charter. The most obviously claims for protection would be ones under Art (54) Abuse of rights combined with a claim under art (16) freedom to do business. If the infringer both contributes intellectual property to the technological product they manufacture they could claim an abusive of rights under art (54) and a claim under art (17), the right to property. The first claim would be justified because the excess costs would have to be subsidies out of the manufacturers normal operating profits which would be an intolerable interference effecting the owner's freedom to do business. The second claim would be justified because it could be argued that the excess cost would have to be subsidies out of the rewards that the manufacture would have otherwise retained from its own intellectual property. There could also be a claim under art (47) the right to an effective remedy.

Having looked at the potential decisions which substantially over value or under value damages and reasonable royalties, the next step is to see what claims could arise if a court applied the correlated rights doctrine when making those same decision. As fundamental principle in the doctrine is that intellectual property owners should be paid according to the value which their property contributes to an intellectual property, this presupposes that the court sets a rate which is within an estimated range of the value which end users place on the intellectual property. Obviously if this were the case, the only claim that either an owner or an infringer could make would be that in setting such a rate the court was an intolerable interfering in their freedom to do business under art. (16). That it is an interference with their freedom to do business is undeniable, but whether it is intolerable interference is highly unlikely. For it would be easy for the state to justify its interference by claiming that; their objective was to protect the freedom to do business and property rights of others, that the doctrine is specific enough to provide the necessary clarity in term of how intellectual property law will be applied, it is the least intrusive method of determine reasonable royalties, and that the balance of harm weighs in favour of protecting the freedom to do business and property rights of others.

11.2.4 State Liabilities

At this point it is worth noting that EU law is somewhat unique in that provides European citizens and other legal entities the ability to seek damages when a Member State have violated EU law. This possibility should provide both EU institutions and Member States a huge incentivise to seriously consider applying the correlative rights doctrine or at the very least provide them pause when are considering imposing excessively high or low damages or running royalties. While actions seeking damages have most often been brought against Member States there have also been instances where EU institution have also been libel for damages.

A recent case which acknowledges and tries to clarify the issue of state liabilities is the case of *Köbler v. Austria*.⁹⁷⁵ In that case the CJEU was asked to clarify whether an Austrian Professor could make a claim for damages against the Austrian State because an Austrian court had denied his claim for damages against an Austrian university. The university having refused to pay an automatic increase in his salary, because he had spent part of his time teaching at a University in another Member State. This suit for damages being based on the proposition that; the Austrian Court's decision had contravened EU law on the free movement of workers included in EU Treaties. The case itself was presented to the CJEU through a preliminary reference made an Austrian court, which heard Köbler's appeal.

While the CJEU rejected Köbler's claims on its merits, it upheld and clarified the theory of member state liability; by announcing the following principles of state liability:

- (1) Breaches in EU law can and do give rise to state liability.⁹⁷⁶
- (2) Member State liability applied to all member state actions which violated EU law,⁹⁷⁷
- (3) Court decisions in breach of EU law are actionable⁹⁷⁸
- (4) *Res judicata* does not preclude these state liabilities.⁹⁷⁹
- (5) Member States can decide which courts are to adjudicate cases involving state liabilities.⁹⁸⁰

Having confirmed that courts decisions can give rise to State liabilities, the ruling subsequently describing the conditions governing that liability. These conditions were;

- (1) The breached EU law was intended to confer rights on individual
- (2) The breach must be sufficiently serious
- (3) There must be a direct causal between the breach and the loss or damages sustained by the injured parties.⁹⁸¹

While there is nothing outwardly onerous in these conditions, it should be noted that two paragraphs later the ruling states that;

'State liability for an infringement of Community law by a decision of a national court adjudicating at last instance can be incurred only in the exceptional case where the court has manifestly infringed the applicable law.

⁹⁷⁵ Case C-224/01 *Köbler v. Republik ÖSTERREICH*, (2003) E.C.R. I 10239

⁹⁷⁶ *Id.* [30], citing: (Joined Cases C-6/90 and C-9/90 *Francovich and Others* [1991] ECR I-5357, paragraph 35; *Brasserie du Pêcheur and Factortame*, cited above, paragraph 31; Case C-392/93 *British Telecommunications* [1996] ECR I-1631, paragraph 38; Case C-5/94 *Hedley Lomas* [1996] ECR I-2553, paragraph 24; Joined Cases C-178/94, C-179/94, C-188/94, C-189/94 and C-190/94 *Dillenkofer and Others* [1996] ECR I-4845, paragraph 20, Case C-127/95 *Norbrook Laboratories* [1998] ECR I-1531, paragraph 106 and *Haim*, cited above, paragraph 26)."

⁹⁷⁷ *Id.* [31,] citing: (*Brasserie du Pêcheur and Factortame*, cited above, paragraph 32; Case C-302/97 *Konle* [1999] ECR I-3099, paragraph 62 and *Haim*, cited above, paragraph 27)."

⁹⁷⁸ *Id.* [33] and [34]

⁹⁷⁹ *Id.* [39] and [40]

⁹⁸⁰ *Id.* [50]

⁹⁸¹ *Id.* [51]

In order to determine whether that condition is satisfied, the national court hearing a claim for reparation must take account of all the factors which characterise the situation put before it.

Those factors include, in particular, the degree of clarity and precision of the rule infringed, whether the infringement was intentional, whether the error of law was excusable or inexcusable, the position taken, where applicable, by a Community institution and non-compliance by the court in question with its obligation to make a reference for a preliminary ruling under the third paragraph of Article 234 EC.⁹⁸²

What this explanation of the conditions appears to suggest is that the State must have knowingly breached a clear EU law without justification, in order for liability to attach. However, that suggestion is belied by an obligation on the States to seek clarification of EU law when they have doubt about its implications with respect to the case at hand. If they fail to seek clarification this can be taken into consideration when determining state liability. A position reiterated in the 2006 case of *Traghetti Del Medierraneo* in which the lack of a preliminary reference was once again mentioned as an element which could be used to establish state liability.⁹⁸³

When considering this in terms of the Charters effect on intellectual property cases, this clearly implies that if a Member State court decides a case in a manner can be considered a breach of the Charter, the State may be liable for damages, when they choose not to make a reference for a preliminary ruling on whether such a decision would be a breach. This because; a) the Charter undoubtedly provides rights to intellectual property owners, b) a breach of those rights will be substantive as the amounts involved are often in the millions if not billions of Euros, c) there is a direct relationship between the decision and the loss or damages suffered by the intellectual property owner, and d) the fact that the implication of Charter on the application of intellectual property has yet to be addressed by the CJEU, which means that there is not at present clarity as to how it should be applied to avoid a breach.

11.2.5 Enforcing the Charter Requirements in Intellectual Property Law

Admittedly the assessment of the implication of the Charter on intellectual property rights and the question of state liability only represent a theoretical analysis. However, EU law provides a very simple and effect way to test its validity. This can be done through a request for a preliminary ruling from the CJEU, similar to the ones used in the cases of *Huawei*, *Luksan*, *Sky Österreich*, *Factortame*, and *Köbler*, mentioned above.

The ability to make a request for a preliminary ruling has been in place since the establishment of the European Coal and Steel Community in 1951.⁹⁸⁴ It is purpose is to 'ensure uniform interpretation and application of [EU] law within the European Union.'⁹⁸⁵ The authority of the CJEU to grant preliminary rulings is currently provided by Article 19 (3)(b) TEU and the procedures for making a request for a preliminary ruling are currently provided in Art.267

⁹⁸² *Id.* para 53-55

⁹⁸³ Case C-173/03 *Traghetti Del Medierraneo SpA v Repubblica Italiana* [2006] E.C.R. I - 5204 [32]

⁹⁸⁴ Art 41. Treaty constituting the European Coal and Steel Community (1951)

⁹⁸⁵ C-338/1 Recommendations to national courts and tribunals in relation to the initiation of preliminary ruling proceeding, (2012/C 338/01 O.J. 6.11.2012) [1]

TFEU.⁹⁸⁶ A request for a preliminary ruling can be made whenever a national court or tribunal has questions concerning the interpretation or validity of a EU law which is relevant to the case which they are hearing.⁹⁸⁷ A request for a preliminary ruling must be made whenever a national court or tribunal is the court of last instance in the Member State, and there are questions concerning the interpretation or validity of a EU law which is relevant to the case which they are hearing.⁹⁸⁸ According to the *Acte Clair* criteria established in CILFIT, questions concerning the interpretation of EU law are said to arise whenever a court could not hold that both the interpretation of EU law was obvious and that other Member State courts would not come to the same obvious interpretation.⁹⁸⁹ While the level of doubts as to whether other jurisdictions would interpret EU law in precisely have same way were relaxed in joined case X and Van Dijk⁹⁹⁰ in the case of *Ferreira da Silva* the CJEU reiterated that:

'a court or tribunal against whose decisions there is no judicial remedy under national law is obliged, where a question of EU law is raised before it, to comply with its obligation to bring the matter before the Court of Justice, unless it has established that the question raised is irrelevant or that the provision of EU law concerned has already been interpreted by the Court or that the correct application of EU law is so obvious as to leave no scope for any reasonable doubt.'⁹⁹¹

While this ruling is binding on courts of last resort, and clearly implies that a preliminary ruling *should* be made whenever any national court or tribunal has a reasonable degree of doubt about how a EU law should be applied, with greater amounts of doubt providing greater incentives to make an application.⁹⁹²

Given that the question arising from effect of the Charter on the treatment of integrated intellectual have not yet been tested in the CJEU, and there is a huge degree of doubt about what the criteria to be used to determine reasonable damages/royalties it is only right and proper that the preliminary reference procedure be utilized by a member state court to seek a decision from the CJEU or the ECFI on these issues.

As to the question which could be asked, a few suggestions are as follows:

- Does Article 17 of the European Charter of Fundamental Rights and Freedoms required that: the average estimated value that an intellectual property contributes to a technological product to be used as the criteria for determining a reasonable range of damages/running royalties.
- and
- if not, what is the criteria to be used?

⁹⁸⁶ *Id.* [3]

⁹⁸⁷ Morten Broberg and Niels Fenger, *Preliminary References to the European Court of Justice*, 2nd ed 8 (Oxford University Press, 2014) p 156-221

⁹⁸⁸ *Id.* p 222-273

⁹⁸⁹ Case 283/81, Srl CILFIT and Lanificio di Gavardo SpA v Ministry of Health, [1982] ECR 3415

⁹⁹⁰ Joined Cases C-72/14 and C-197/14, X v Inspecteur van Rijksbelastingdienst and T. A. van Dijk v Staatssecretaris van Financiën, EU:C:2015:564 [63]

⁹⁹¹ Case C-160/14 João Filipe Ferreira da Silva e Brito and Others v Estado Português [2015] [38]

⁹⁹² Morten Broberg and Niels Fenger, *Preliminary References* p 275

- Does Articles 17 of the European Charter of Fundamental Rights and Freedoms require that: reasonable royalties for standard essential properties or otherwise correlated properties be defined as an approximation of the proportional value that an intellectual property provides to a technological property, as would be required under the application of a correlated rights doctrine.?
- Does Articles 17 of the European Charter of Fundamental Rights and Freedoms have the direct effect of making Member States liable for damages, if their judicial authorities set damages for infringement of an intellectual property at levels which are substantial above or below what would be the reasonable royalty range?
- Do Articles 16, 17, and 54 of European Charter of Fundamental Rights and Freedoms prohibit integrated intellectual property owners from seeking injunctive relief under Member State intellectual property law in order to attain disproportionate and excessive compensation for the use of their intellectual property which will limit the ability of fellow integrated intellectual property owners to receive fair compensation for their contributions?
- Do Articles 16, 17, 47, and 54 of European Charter on Fundamental Rights protect intellectual property owners from unreasonably protracted litigation, sanctioned by Member State intellectual property law, which will deprive them of their right to a fair return from their intellectual property because they have neither the legal nor financial resource sustain such actions?

Obviously if the first two question were to be asked and answered by the CJEU, it would go a long way towards resolving any underlying uncertainty about determining the reasonable royalties, which is always the underlying issue in any correlated intellectual property right disputes. The answer to the third question would clarify the responsibility and liabilities of Member State judicial authorities in terms of ensure that intellectual property owners receive reasonable compensation for the unauthorised use of their property. While the rights of correlative intellectual property owners to injunctive relief and the right to a speedy trial have already been answered in *Huawei v ZTE*. Asking similar questions with respect to the Charter does carry the added advantage of providing answers from an additional body of law other than competition law.

In summary while the Charter does not clearly state that intellectual property law must apply the correlative rights doctrine to integrated intellectual property, it does appear to imply that something like it should be applied. Further as the Charter also clearly states that cases should be dealt with in a "reasonable time" this should eliminate the possibility of legal attrition. Further if European Courts ignore the Charter and fail to provide intellectual property owners with fair compensation for the use of their property or fail to do so on a timely basis, they there are clear indications that may be liable for damages suffered by intellectual property owners. Finally, given that the Charter like the TFEU, represents a hierarchically superior body of law in the EU, it appears entirely possible and logical that reference to it could become as common as references to articles 101 and 102 to the TFEU. All of which suggest that the Charter effectively requires an application of the correlated property rights doctrine or at the very least requires that European courts make a reference to the CJEU to allow it to make a preliminary ruling on whether the doctrine should be applied. To the extent that such a reference can be instigated

by litigants in a dispute, this obviously also provides intellectual property owners with the ability to enforce or at least test the implication of the Charter on intellectual property law.

In addition, it should be mentioned that if a preliminary ruling were requested and that preliminary ruling came back in support of an application of the correlated rights doctrine, this could have a dramatic impact on the public perception of Charter. This because it would be difficult to portray inventors who are seeking a fair payment for the use of their inventions as "villains", just as it would be difficult to portray technology manufacturer which are seeking protection from patent trolls as "villains". In fact, the possibility of demonstrating that the Charter's principle purpose is to act as a shield to protect EU citizens legal rights would provide a concrete example of the benefits of belonging to the European Union. Not to mention positive consequence which would flow to the EU and its Member States if an application of the correlated rights doctrine were mandated by the CJEU.⁹⁹³

⁹⁹³ Those anticipated benefits are described in Chapter 13

12. Correlated Rights and Recent Literature

Because the correlated intellectual property rights advocated for in this thesis have not subject of any other scholarly work, including citations which directly relate to the topic has proved impossible. This chapter is included as an attempt to overcome any shortfall in the citation required for a thesis, by instead focusing on scholarly work which present arguments which can be considered supportive of the propositions underlying correlated intellectual property rights.

When searching for articles which would provide this indirect support, it became evident that for the past decade an overwhelming majority of scholarship has been primarily focused on the prevalence and solutions related to patent holdup.⁹⁹⁴ As relevant as these articles are to solving the problem associated with exclusive intellectual property rights; because they have predominately taken a one sided prospective against the rights of IP owners, they have become somewhat antithetical to the application of correlated property rights.⁹⁹⁵ With the most extreme of these patent holdup articles asserting that whenever non-practicing entities litigate to enforce their patent rights, it creates overwhelming social costs with little or no social benefits to society.⁹⁹⁶ As can be expected this focus on patent holdup is reflected in many rulings on patent disputes,⁹⁹⁷ and resulted in a situation whereby the availability of injunctive relief for non-practicing entities has become significantly eroded when compared to the relief available to for practicing entities.⁹⁹⁸

Given this antithesis, it is logical that contrarian articles which rebut the foundational patent holdup article by Lemley and Shapiro⁹⁹⁹ would be the best source of citations supportive of correlative rights. Whilst relatively few in number, these articles not only challenge the dominate analysis and proposed solutions to patent holdup, they also initiate and address the issue of patent holdout.¹⁰⁰⁰ It is this analysis of patent holdout, which corresponds most closely to the correlated rights analysis included in this thesis. The foundation of this potential indirect

⁹⁹⁴ A search of the HeinOnline finds 732 articles when the search term is “patent holdup” is used.

⁹⁹⁵ See for e.g.: Melamed, A. Douglas and Shapiro, Carl, *How Antitrust Law Can Make FRAND Commitments More Effective* (January 2018). Stanford Law and Economics Olin Working Paper No. 510. ; Lemley, Mark A. and Shapiro, Carl, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents* (November 5, 2013). Stanford Public Law Working Paper No. 2243026.

⁹⁹⁶ James Bessen and Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 Cornell L. Rev. 387 (2014) Available at: <http://scholarship.law.cornell.edu/clr/vol99/iss2/3>

⁹⁹⁷ Jonathon M. Barnett, *Has the Academy Led Patent Law Astray?* Forthcoming in Berkeley Technological Law Journal, (January 11, 2017). Forthcoming, Berkeley Technology Law Journal (2017: “I identified 37 federal court decisions that mentioned “patent holdup” or “royalty stacking”, eight International Trade Commission (“ITC”) proceedings that did so, and four FTC proceedings that did so. ... The FTC and the Department of Justice (“DOJ”), which periodically undertake antitrust enforcement actions that have implications for the patent system, refer to these theories, sometimes noting that these theories reflect an academic consensus.” at 7

⁹⁹⁸ See Christopher B. Seaman, *Permanent Injunctions in Patent Litigation after eBay: An Empirical Study*, 101 IOWA L. REV. 1949 (2016). In this study Seaman found that after eBay, the average grant rate for petitions for permanent injunctive relief declined from 95% to 72.5% overall, and that the major reason for the decline was that non-practicing entities were only granted relief 16% of the time. At 1982, 1986-88.

⁹⁹⁹ Lemley and Shapiro Patent Holdup and Royalty Stacking (2007)

¹⁰⁰⁰ A search of the HeinOnline finds 18 articles when the search term “patent holdout” is used

support being a clear recognition that abusive behaviour is not the exclusive province of either property owners or users.

This body of this chapter is divided into two parts. The first part summarizes the arguments used in the patent holdout literature which can be considered milestone rebuttals of patent holdup analysis. The second part provides an analysis of how these arguments relate to correlated intellectual property rights.

12.1 Patent Holdout Literature

When reviewing the various articles which are intended to either rebut the patent holdup articles or alternatively address the issue of patent holdout, it appears that there are many reoccurring counter arguments which are used. To facilitate a clearer analysis of these articles and arguments, this analysis will open by providing a list of the principle arguments, and then provide a chronological analysis of the seven milestone articles which presented these arguments. That list is as follows:

- 1) Patent holdup is not really a problem, as the threat of injunctive action and wilful infringement penalties are needed to incentivise private negotiations of intellectual property licenses.
- 2) There is insufficient evidence to suggest that the problems related to patent holdup are sufficient to justify substantial changes in the application of intellectual property law.
- 3) Patent holdup has been wrongly defined as any patent licensing activity by non-participating entities.
- 4) Lemley and Shapiro's proposed reasonable royalty calculation methodology is flawed.
- 5) Proposed patent holdup solutions which eliminate injunctive relief for non-practicing entities are discriminatory.
- 6) Proposed patent holdup solutions which allow courts to impose royalties which are a fraction of the value which an intellectual property provides, are inconsistent with the application of intellectual property law.
- 7) Proposed patent holdup solutions which eliminate injunctive relief for non-practicing entities promote patent holdout.
- 8) Proposed patent holdup solutions which allow courts to impose royalties which are a fraction of the value which an intellectual property provides represents an appropriation of patent property, and promotes patent holdout, which also appropriates value from patent owners.
- 9) Any proposed solution to patent holdup must provide willing licensees with an advantage over unwilling licensees if the private market negotiations are to be maintained.

12.1.1 Can Standard-Setting lead to Exploitive Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND¹⁰⁰¹

In their effort to provide a systematic defence of FRAND commitments in standardized technologies, Damien Geradin and Miguel Rato, reflexively provide a clear rebuttal the concerns about (and solution to) patent holdup which were being articulated by other scholars. Written shortly after the eBay decision this article covers a number of the arguments which would come to dominate articles specifically written directly rebutting patent holdup analysis. To put those arguments into context, it is essential that an explanation of their arguments in support of FRAND be summarized.

In their first part of the article the authors detail the structure and benefits of standardisation bodies and their rationale and objective for adopting FRAND commitment requirements. In describing the structure, they point out that there are four types of participants in any standardization organization: pure inventors which contribute intellectual properties to a technological product but do not manufacture the product, pure manufacturers which manufacture the product but do not contribute intellectual properties to it, integrated manufacturers; which both manufacture and provide intellectual properties to a technological product, and finally, buyers. This division of participants is provided to explain the divergent royalty objectives of the various participants. Pure inventors obviously wanting royalties to be as high as possible, integrated manufacturers wanting them high enough to reduce competition but low enough to encourage demand and both pure manufacturers and consumers want them as low as possible. They further point out that it is because of these conflicting objectives that the FRAND commitment was established.¹⁰⁰²

According to authors the rationale behind the FRAND commitment requirement were twofold: '(i) to ensure dissemination of the essential IPR contained in a standard, thereby allowing it to remain available for adoption by members of the industry, whilst (ii) at the same time making certain that holders of those IPR are able to reap adequate rewards from their innovations.'¹⁰⁰³ In terms of defining the general meaning of FRAND, first and foremost they view it as a general commitment to engage in good faith negotiations with any willing licensee and second as a waiver of their rights to either avoid licensing negotiations or provide an exclusive license to single user.¹⁰⁰⁴

Using this rationale, they take a contrarian view to those who suggest that fair and reasonable royalties are the royalties which a patent owner would have obtained before it was adopted in the standard. Suggesting that view is a mistaken because it is based upon the unverified assumption that standardization confers market power beyond that already provided by the patent. Instead they contend that fair and reasonable relate to the ensuring that owners receive a fair reward for their use of their property. To that end they define fair and reasonable as ensuring licensing terms which would result from 'fair, bilateral negotiations between individual IPR owner and standard-adopter in accordance with the market conditions prevailing

¹⁰⁰¹ Geradin, Damien and Rato, Miguel, Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND (April 2006). (hereinafter: Geradin and Rato, A Dissonant View)

¹⁰⁰² *Id.* at 5

¹⁰⁰³ *Id.* at 9

¹⁰⁰⁴ *Id.* at 10

at the time of such negotiations.¹⁰⁰⁵ Finally they define non-discriminatory as prohibiting discrimination ‘between similarly situated competitors active in the markets for the product incorporating the standardised IPR would hinder the competitive process’.¹⁰⁰⁶

After defining what they consider FRAND to mean, the authors provide their interpretation of what level of royalties would be consistent with a FRAND royalty. According to their view it would follow ‘the merits of long-established model of *bilateral negotiations* between IPR owners and standard-adopters.’ [italic added]¹⁰⁰⁷ This interpretation is distinctly different from one which presumes that it is the royalties which would be negotiated before an IP is adopted by a standard, as it merely assumes that the license will be negotiated on an arms-length basis, taking into account any relevant facts at the date of the negotiations. In explaining why it is not necessary to recreate ex-ante negotiations, the authors suggest two factor which make such efforts unnecessary. First, they argue that some patents are so essential that they would have the same market power regardless of being included in a standard. Second, they argue that owner’s royalty rates are moderated by a desire to have future patented innovations included in the standard.¹⁰⁰⁸ Given this this interpretation of reasonable royalty effectively maintains the status-quo of bilateral negotiations, it indirectly if not directly implies that patent holdup is not really that significant of a problem.

This however is not their strongest argument against the proposed patent holdup solutions. That privilege would appear to be the author’s prophetic predictions about what would happen if a FRAND commitment was interpreted as waiving an IP owner’s rights to injunctive relief. What they predicted was that: if injunctive relief was denied to standardized IP owners, IP users would engage in reverse patent holdup (i.e. patent holdout) to drive down their licensing costs.¹⁰⁰⁹ It is this foresight in predicting the advent patent holdout which makes this article a truly noteworthy rebuttal to the recently proposed patent holdup solutions.

Other notable counter-arguments included in the work involve questioning the evidence of systemic patent thickets and royalty stacking, the existence of pervasive patent holdup¹⁰¹⁰. While the authors may not have accepted the existence of a systemic problem, this did not prevent them from addressing other proposed solutions, like ex-ante negotiation simulation, collective royalty negotiations and the potential application of competition law. With respect to the ex-ante negotiation simulations they express concerns about eliminating incentives for early

¹⁰⁰⁵ *Id.* at 12

¹⁰⁰⁶ *Id.* at 13

¹⁰⁰⁷ *Id.*

¹⁰⁰⁸ *Id.* at 14

¹⁰⁰⁹ *Id.* at 16-17 ‘Finally, although this paper is not the proper place to expand on the topic, in our view the policy considerations that underlie the “waiver theory” are misconceived,. If an IPR owner were only able to obtain a judicial ruling establishing that its IPR has been infringed and if its only relief were an ex post award of damages, standards’ adopters would be invited to take their chances in court and begin immediately using the invention without trying to obtain a licence. For those adopters, the worst case scenario would merely be a requirement to pay damages once a court had established the infringement. It would therefore be akin to compulsory licensing. Such an interpretation of the FRAND commitment would be a patent infringers’ charter and would provide an incentive for implementers of a standard to refuse beforehand to enter into licence agreements on FRAND terms. In those circumstances, patentees would arguably prefer to settle for a licence on terms that would not provide a fair return on their investment, in other words terms which would not comply with FRAND, rather than face lengthy, onerous and uncertain court proceedings for the award of damages. This would amount to nothing less than an “inverse patent hold-up”, this time committed by the standard adopter, who would be in a position to refuse the FRAND licence terms proposed by the patentee but still remain immune from injunctions for infringement.’

¹⁰¹⁰ *Id.* at 22-23

licencing by implementors, which would also harm IP owners.¹⁰¹¹ The primary concerns with collective negotiation, being the restriction of competition and as well as the potential infringement of competition law. And the application of competition law being hampered by a lack of consensus as to what level of royalties would constitute an abuse of power.

With respect the overall conclusion with respect to addressing reshaping FRAND licensing the authors stated the following:

‘SSOs have substantially contributed to the dissemination of innovative technologies and the enhancement of competition between products. It can be argued that, by allowing licensors and licensees to reach mutually satisfactory agreements, the prevailing twin policies of early disclosure and FRAND licensing of essential IPR have played a significant part in this. The proposals to abandon this proved system described above misunderstand (or at least misrepresent) and exaggerate the perceived problems allegedly affecting traditional standard-setting processes. Should they be adopted, these proposals have in varying degrees the potential to: rigidify or simply eliminate the bilateral licensing negotiations between holders of essential IPR and implementers; eliminate the competitive aspect of the standardization process that allows firms to make different strategic choices as to the desirability to license patents before or after the adoption of the standard; create enormous implementation difficulties and delays resulting in significant welfare losses; give rise to serious competition law concerns; and, in most cases, lead to fundamentally flawed and unfair mechanisms of allocating royalties among holders of essential IPR.’¹⁰¹²

This statement reflecting a strong advocacy in favour relying on bilateral negotiations and letting the free market under the auspicious of generalized FRAND commitments, determine standardized licensing terms.

12.1.2 “Patent Trolls” and Patent Remedies¹⁰¹³

One of the first articles to provide a specific counter-argument against the proposed solutions to patent holdup, was “*Patent Trolls*” and *Patent Remedies*, by Professor John Golden. This article was written shortly after the eBay v MercExchange decision and was clearly intended to moderate the ongoing alarmism related to patent holdup. Include in this work are most of the arguments included in the above list, including behaviour which would later be termed patent holdout. The pragmatic concerns most directly confronted in the article relating to; the adoption of a categorical rule which would prevent non-practicing entities from being granted injunctive relief, as well as limiting reasonable royalties to small fraction of the value provided by an intellectual property.¹⁰¹⁴

¹⁰¹¹ *Id.* at 27-28

¹⁰¹² *Id.* at 36

¹⁰¹³ Golden, John M., ‘*Patent Trolls*’ and *Patent Remedies*. Texas Law Review, Vol. 85, p. 2111, 2007. (herein after: Golden, *Patent Trolls and Remedies*)

¹⁰¹⁴ *Id.* at 2114 “This Commentary provides arguments against such a categorical rule. It does so in response not only to the district courts’ decisions, but also to an article by Mark Lemley and Carl Shapiro suggesting that as a matter of good economic policy, permanent injunctions should commonly be denied when they are sought by “noncompeting patent holders”—who are defined, for purposes here, to be patent holders who neither compete with an infringer nor exclusively license to someone who does.”

In his introduction Professor Golden, begins out by noting that despite the perception that there has been a growth in patent assertion which has been detrimental to economic growth, the ratio of issued patents to real domestic product has remained relatively constant 70 years. He makes this point to refute that the argument that the US patent system is out of balance and is in danger of being compromised by the advent of “villainous patent trolls”.¹⁰¹⁵ The body of the articles continues by providing a historical review of the evolution of patent rights. In his review of history Golden first points out that since the time of Adam Smith patent rights have been regarded as serving societies long term interest.¹⁰¹⁶ Further that since its enactment, patent law and the courts have recognised that patents which simply improve on an existing invention are also to be protected.¹⁰¹⁷ That this protection ordinarily would include the right to injunctive relief, even for non-practicing entities.¹⁰¹⁸ Further that the courts have long recognised the potential for patent abuse and have sought to mitigate against such abuse by restricting preliminary injunctive relief when it was in the public interest.¹⁰¹⁹ The purpose of this contextualization being to demonstrate that the problems of patent holdup is not new to intellectual property law,¹⁰²⁰ and to build a foundation to conclude that existing law is capable of dealing with patent holdup.

To provide a context to explain the flaws in proposed patent holdup solutions, Golden devotes Part III of the article to an explanation of the relative bargaining prospect of both owners and users. This explanation begins with description of the general litigation risks faced by both parties, which can be described as de facto patent holdup and holdout risks, both of which are increased by anticipated litigation costs.¹⁰²¹ This is followed by a specific discussion of the litigation risk faced by infringers and owners.

¹⁰¹⁵ *Id.* at 2112

¹⁰¹⁶ *Id.* at 2118 “Given the nature of patent law’s rights-for-disclosure bargain, one might follow substantially in the footsteps of Adam Smith and argue that it tends naturally to serve society’s long-term interests. Citing: CHRISTINE MACLEOD, *INVENTING THE INDUSTRIAL REVOLUTION: THE ENGLISH PATENT SYSTEM, 1660–1800*, at 197 (1988) (“[Adam Smith argued that] it was unlikely that the legislature could give ‘pecuniary rewards . . . so precisely proportioned to the merit as [patents]. For here, if the invention be good and such as is profitable to mankind, he will probably make a fortune by it; but if it be of no value he will also reap no benefit.’”).”

¹⁰¹⁷ *Id.* at 2121 “In 1776, Lord Mansfield recognized that patents on such inventions were not only permissible, but in fact predominant. In the newly formed United States, the Patent Act of 1790 explicitly made broad provision for the patenting of “any improvement” of a “useful art, manufacture, engine, machine, or device.” Citing: The Patent Act of 1790, ch. 7, § 1, 1 Stat. 109, 110 (repealed 1793); cf. Patent Act of 1793, ch. 11, § 1, 1 Stat. 318, 319 (repealed 1836) (authorizing the patenting of “any new and useful improvement on any art, machine, manufacture or composition of matter”).

¹⁰¹⁸ *Id.* at 2119 “Thus, a regime marked by a general presumption of the ultimate availability of injunctive relief—a presumption applying regardless of whether a patent holder “worked” or otherwise practiced the invention was maintained despite recognition that (1) a significant percentage of patents were likely to be invalid and (2) an injunction based on a relatively minor invention could halt an enterprise that generated significant value for society. (Cont’l Paper Bag, 210 U.S. at 429 (describing the short-lived application of a working requirement to noncitizens from 1832 to 1836))”

¹⁰¹⁹ *Id.* Courts mitigated the cost of such patents by recognizing a variety of potential reasons for denying preliminary injunctions, including hardship to the accused infringer and doubts as to a patent’s infringement or validity. Citing: *Edison Elec. Light Co. v. Mt. Morris Elec. Light Co.*, 58 F. 572, 575–77 (2d Cir. 1893) (considering the likely level of “pecuniary injury” to an accused infringer in deciding whether to grant a preliminary injunction)”

¹⁰²⁰ *Id.* at 2124 “In sum, the basic problems addressed by Lemley and Shapiro— problems of how patent law should be tailored to an age of rapid, cumulative invention, and how courts and policymakers should react to concerns that individual patent holders might be overcompensated—appear to be far from foreign to the history of patent law.”

¹⁰²¹ *Id.* at 2125

With respect to the litigation risk faced by infringers, Golden explains that risk can be divided into three components; the expected damages multiplied by the probability of losing, the injunction costs multiplied by the probability of an injunctive order, and the anticipated cost of litigation.¹⁰²² He then goes on to observe that because the liability cost are closely correlated to the strength of the patent, when patent is weak the principle source of patent holdup are the litigation costs,¹⁰²³ alternatively if a patent is strong than it is the potential injunctive cost which will drive patent holdup concerns.¹⁰²⁴ In either case Golden concludes that an infringer will only likely engage in negotiation, if they believe that such negotiations will result in a licensing cost which is less than the total litigation costs,¹⁰²⁵ and that only in litigation involving strong patents is it likely that a stay on injunctive relief would 'substantially reduce the probability that a patent holder will obtain royalties more reflective of exogenous circumstance than the patented invention's more intrinsic economic worth.'¹⁰²⁶

With respect to the litigation risks faced by an owner, Golden begins with the assumption that because an owner knows that an infringer will not pay more the anticipated total litigation cost, they will offer licenses at a rate lower than those costs.¹⁰²⁷ In addition this rate could be reduced even further because of information asymmetry, which will apparently handicap the bargaining position of patent owners.¹⁰²⁸ Another restraint on the rates being sought by patent owners being the time and costs associated with litigation. Cost which will have to come directly out an owner's existing resources, for unlike infringers they will not have ongoing profits from product sales to finance litigation expenses.¹⁰²⁹ In addition to the tangible unfunded litigation cost, Golden also highlights the intangible cost associated with pursuing patent litigation is that it could effectively eliminate an owner's potential participation in the technological field by delaying the adoption of its properties.

As such, Golden's analysis of the bargaining prospects of the potential litigants leads him to the conclusion that 'although the patent holder may possess the threat of an ultimate injunction, years of time and a million or so dollars of litigation costs likely stand between such a threat and its realization. The potential infringer may very well have a plausible claim that the threat of a permanent injunction is no real threat at all—that by the time a permanent injunction could issue, the accused product will have long since, and in the regular course of business, been either discontinued or substantially redesigned in a way that nullifies any possible claim of ongoing infringement.'¹⁰³⁰ A conclusion which contradicted the contemporaneous concerns about

¹⁰²² *Id.* at 2127

¹⁰²³ *Id.* at 2128, "Hence, for a weak-patent suit for which θ is nearly 0, litigation costs are likely to dominate the potential infringer's expected costs and thus—as a number of other commentators have suggested⁶¹—to become the dominant driver for the potential infringer's willingness to settle. In such cases, the expected cost of litigation—not the threat of an injunction—should be the most likely cause of artificially inflated settlements."

¹⁰²⁴ *Id.* at 2130

¹⁰²⁵ *Id.* at 2126 "we can expect the potential infringer to be willing to pay a licensing fee equal to or less than the total expected cost under the litigation option."

¹⁰²⁶ *Id.* at 2131

¹⁰²⁷ *Id.*

¹⁰²⁸ *Id.* at 2133 "In sum, information asymmetries appear most likely to disfavor the patent holder in negotiations, suggesting that regardless of any inherent skill at bargaining, the patent holder will probably be substantially handicapped in its ability to achieve an especially favorable negotiated result"

¹⁰²⁹ *Id.* "On the other hand, such a patent holder's resources for litigation might also be substantially less than those of the potential infringer—particularly when it is considered that the potential infringer will, if it chooses, likely be able to enjoy the benefit of the invention for years before the typically tortuous process of patent litigation can produce favorable returns for the patent holder."

¹⁰³⁰ *Id.* at 2134-5

patent holdup and described that circumstances which would later be called “patent holdout”.¹⁰³¹

This general repudiation to patent holdup concerns, is followed by a direct critique of the flaws in Lemley and Shapiro’s patent holdup analysis and their proposed solution. This critique being prefaced by a contention that although patent holdout can occur, under compensation may be more common than over compensation.¹⁰³² The critique itself focusing on alleged defects in Lemley and Shapiro’s approach the most significant of which included; tying reasonable royalties to the bargaining skills of its owner, asserting that there is a known value which can be attributed to the patent, placing an arbitrary cap on royalties, in addition to a methodological criticism which challenged the inadequacy of the evidence provided to justify the use of this new calculation method.¹⁰³³

With respect to tying the reasonable royalties to the owners bargaining skills, Golden contends that the value of a patented innovation has nothing to do with bargaining power.¹⁰³⁴ Golden defends this contention by stating that there is nothing in the statutory law which suggests that patent damages are to be constrained according to the bargaining power of the respective owners.¹⁰³⁵ This contention obviously implying that Lemley and Shapiro’s formula; is fundamentally flawed; because it includes bargaining powers as a significant factor in determining reasonable royalty.

As to questions about the known value of the patented invention, Golden suggests that as there is no consensus to what constitutes the value of a patented invention, it cannot be used as defined factor in a reasonable royalty calculation. Further that defining it as a rate which could be expected if there were no holdup, neither provides clear guidance, nor is it a valid assumption. He argues it is not a valid assumption because historically the threat of injunctive has been the principle measure which facilitated private settlement of intellectual property licenses, and it was those licenses that formed the bases for court ordered damages.¹⁰³⁶

Golden’s objection to the cap that Lemley and Shapiro’s calculations places on reasonable royalties, were also based upon a lack of any such constraints in the statutory law.¹⁰³⁷ For him the essential element of a statutory royalty calculation was that it only stipulated a lower limit,

¹⁰³¹ *Id.* “In short, whatever the inherent bargaining skill of a patent holder, there is a good chance that various circumstances will cause it to feel substantial pressure to settle for significantly less than the patented invention’s true worth to a potential infringer. In particular, it seems at least plausible to suggest that under current legal and economic conditions, nonpracticing or otherwise noncompeting patent holders might be at least as likely to be undercompensated as to be overcompensated.”

¹⁰³² *Id.* at 2136

¹⁰³³ While other defects in the volving ignoring litigation costs, ignoring information asymmetries, and ignoring “patent hold out” are also mentioned, because these were covered in the earlier general analysis they are not covered in this specific critique. *Id.* at 2136-7

¹⁰³⁴ *Id.* 2137, “The factor B discounts the patent holder’s reward on a basis that apparently has nothing to do with the patented invention’s worth: the value of a patented invention does not become 0 simply because its owner lacks the skill or leverage to strike a revenue producing bargain.”

¹⁰³⁵ *Id.* at 2141, “The Patent Act does not suggest that a patent holder should receive no more than an amount discounted by the patent holder’s bargaining skill or power.”

¹⁰³⁶ *Id.* at 2140 “Further, as Joseph Story indicated long ago, injunctions—and, it might be added, the threat of injunctions—can have the social benefit of moving disputes out of the courts by motivating settlement without (further) costly litigation and without the need for courts to engage in a task for which they have long been viewed as ill suited—attempting to provide accurate assessments of patent-infringement damages”

¹⁰³⁷ *Id.* at 2141, “although the Act does invoke the concept of a reasonable royalty, it does not say that a reasonable royalty—never mind Lemley and Shapiro’s benchmark—is the upper bound for what a patent holder should receive”

which he also noted could be tripled in the case of intentional infringement. As such setting a royalty cap which prohibited the cost of injunctive relief being considered as component of reasonable royalties, would be in direct contradiction to both the statutory language of the law and historical precedent.¹⁰³⁸

While the bulk of the critique focused on the flaws in the actual calculations, Golden also expressed concern with the lack of evidence which was provided to support claims of systematic overcompensation, which in turn were used as justification for imposing their formula on reasonable royalty calculations. To this point Golden states that the only evidence provided is two cases which may have involved overcompensations and a small sample of cases where damages for component infringement was two-thirds lower than for integrated infringements.¹⁰³⁹ According to Golden this small data set was not just inadequate, but “unrepresentative of the vast universe of licensing agreements”.¹⁰⁴⁰

Taken together these critiques of Lemley and Shapiro’s formulation and method leads Golden to conclude that the calculation itself cannot be justified.¹⁰⁴¹ Perhaps even more significantly he concluded that if Lemley and Shapiro’s calculations are used, it will result in categorical discrimination against and systematic underpayment to non-practicing entities.¹⁰⁴² Golden backs up these outcome related conclusions by pointing out that Lemley and Shapiro’s recommendation that injunctive relief should be available to practicing entities but not non-practicing entities, clearly represents categorical discrimination. Further, that if it is assumed that providing injunctive relief to practicing entities will result in the privately negotiated reasonable royalty, then a denial of injunctive relief to non-practicing entities must necessarily result in systematic underpayment.¹⁰⁴³

Concurrent with pointing out these potential discriminatory outcomes, Golden also describes the redundancy of the proposed rule, in so far as the traditional discretion granted to the courts when determining whether to grant injunctive relief, provides them with sufficient flexibility to avoid the patent holdup problem Lemley and Shapiro were seeking to resolve.¹⁰⁴⁴ This confidence in the reliability of historical adjudication methods being retained by Golden despite, an acknowledgement that determining reasonable royalties is a notoriously difficult exercise, which can result in significantly different outcomes.¹⁰⁴⁵ The inconsistency of the redundancy

¹⁰³⁸ *Id.* at note 92 “See *Fromson v. W. Litho Plate & Supply Co.*, 853 F.2d 1568, 1577 n.15 (Fed. Cir. 1988) (“In determining the true measure of a reasonable royalty, a court should not select a ‘diminished royalty rate’ a patentee may have been forced to accept ‘by the disrepute of his patent and the open defiance of his rights.’” (quoting *Gen. Motors Corp. v. Dailey*, 93 F.2d 938, 941–42 (6th Cir. 1937))), overruled on other grounds, *Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.*, 383 F.3d 1337, 1341 (Fed. Cir. 2004); DONALD S. CHISUM, CHISUM ON PATENTS § 20.03[2] (2005) (“[A]n established royalty does not preclude the patent owner from recovering a greater sum under a reasonable royalty theory where the established rate was unfairly depressed because the patent had not yet gained recognition or because of widespread infringing activity.”); *id.* § 20.03[2][d] (“[A] number of decisions state that a reasonable royalty may be higher than an established royalty, particularly when the established royalty was depressed because the patent had not yet gained public recognition or acceptance or because of widespread infringing activity.”). Courts have developed specialized criteria for whether negotiated royalties should be considered to set an “established” royalty rate.”

¹⁰³⁹ *Id.* at 2146

¹⁰⁴⁰ *Id.*

¹⁰⁴¹ *Id.* at 2142 “In short, there seems no way around the fact that Lemley and Shapiro have failed to justify their benchmark.”

¹⁰⁴² *Id.* at 2143

¹⁰⁴³ *Id.* at 2149

¹⁰⁴⁴ *Id.*

¹⁰⁴⁵ *Id.* at 2152

criticism and the difficulty of determining reasonable royalties being marginalised by an assertion that; while the threat of injunctive relief which helps to ensure that potential infringers are willing licensees, the subjectivity of that relief ensure that owners make reasonable licensing demands.¹⁰⁴⁶ Supporting this claim Golden cites Lemley and Shapiro who he quotes as stating “[S]ince far more patents are licensed or settled than litigated to judgment, the primary economic effect of rules governing patent litigation arises through the effect of those rules on the licensing terms that are negotiated in the shadow of litigation.”¹⁰⁴⁷

After identifying the redundancy of Lemley and Shapiro’s construct, Golden resumes his critique by examining how their construct would impact technological markets. This analysis specifically extrapolates on how their categorical discriminatory against non-practicing entities would change the market, according to which he contends that: “Such discrimination could favor monopolists and incumbents over competitive firms and new entrants; could discourage innovation, patenting, or patent ownership by economically efficient inventors; could impede efficient specialization of industry functions and encourage inefficient vertical integration; and could prevent patent holders from choosing the most economically efficient, and socially beneficial, ways of exploiting their inventions”¹⁰⁴⁸

The argument that discrimination would favour monopolist and incumbents not merely focusing on the underpayment of royalties, but also the fact that it would reduce the ability of small firms to leverage their properties to establish themselves in the market. The discouragement of innovation resulting from the diminished ability of non-practicing entities to secure royalties and financing based upon royalties to fund their research and development. The potential to impede efficient industry structure based upon the discrimination against smaller intellectual property owners. And the prevention of economically efficient use of patents based upon the clear discrimination against licensing rather than producing.¹⁰⁴⁹

The ultimate conclusion of this analysis being the adopting Lemley and Shapiro’s construct would be anti-competitive.¹⁰⁵⁰ This conclusion being articulated in the conclusion when Golden states that:

In the absence of greater theoretical or empirical support for the proposition that the patent system generally overcompensates broad categories of patent holders, adoption of a discriminatory system of remedies—one that could substantially close the doors of equity to independent inventors, research-oriented start-ups and spin-offs, universities, and patent holding companies—threatens not only to mock true “equity” but also to discourage efficient markets in innovation and patent-rights ownership.¹⁰⁵¹

¹⁰⁴⁶ *Id.*

¹⁰⁴⁷ *Id.* at 2124

¹⁰⁴⁸ *Id.* at 2156-57

¹⁰⁴⁹ *Id.* at 2157

¹⁰⁵⁰ *Id.* at 2158 “Hence, if one believes that legal rules should tend to err in favor of procompetitive rather than anticompetitive effects, Lemley and Shapiro’s proposal for a discriminatory rule regarding permanent injunctions seems backward: (1) the situations where Lemley and Shapiro most favor permanent injunctions—situations where patent rights are held by competitors or exclusive licensors—may be those in which patent holders are most likely to use patents to suppress competition; and (2) the situations where Lemley and Shapiro disfavor injunctions—situations where the patent holder’s only profit comes by authorizing others to use the invention—may be those in which (a) it is most likely that the rational patent holder will want to license rather than to suppress, and (b) the ability to protect invention ideas through injunctions may be most critical to attract investment.”

¹⁰⁵¹ *Id.* at 2161

12.1.3 Elves or Trolls? The Role of Non-Practicing Patent Owners in the Innovation Economy¹⁰⁵²

About a year after the Golden article, Damien Geradin, Anne Layne-Farrar and A. Jorge Padilla authored another article which also sought to moderate the overreaction related to patent holdup. Unlike Golden's more general article, their article focused on what the authors contented was an overly broad definition of "patent trolls".¹⁰⁵³ According to their analysis many non-practicing entities made pro-competitive contributions to their respective industries, which mean that defining all non-practicing entities as patent trolls was counterproductive.¹⁰⁵⁴

In their more detailed explanation of the pro-competitiveness, the authors explain economic literature reaching back to Adam Smith has always recognised the value of specialization, and that non-practicing entities can be view as filling a specialized role in innovation. That while the non-practicing entities may not produce products, they may have superior innovative or other skills that allow them to make a positive contribution to an industry.¹⁰⁵⁵

Having explained the potential pro-competitive role of non-practicing entities the author then provided an explanation of why the exclusive rights provided by patent law are so critical to the success of these innovators. The arguments representing the same arguments used to historical justify patent law protection, which are: 'Once an idea has been shared, it cannot be taken away or unlearned. Without rights of some kind, then, recipients of intangible knowledge goods would be in the profitable position of taking the property without paying. ... By providing IP holders with an enforceable right, patents enable the sharing of information without the inevitable risk of appropriation. And when knowledge is tradable in this manner, various parties can coordinate and contract as necessary to produce a commercial product for a downstream market.'¹⁰⁵⁶ And '[a] second key factor is that patents can facilitate funding for startup companies.'¹⁰⁵⁷

Combining these two elements together the authors more clearly present their argument by describing how because patent allow small innovators to finance their research on the expectation of licensing agreements, this increase the viability of research specialization, which would be lost if every non-practicing entities were treated as an abusive patent troll. That the loss of this research specialization would not only harm current innovation and competition, it would also harm long term innovation and competition because it would forestall those specialists from becoming new entrants in their respective technological fields.¹⁰⁵⁸ This argument being supported by functional economic analysis provided in the subsequent section.

The authors conclude with their article with a discussion of the policy implication of their finding, which they summarize in the final paragraph, which is as follows:

¹⁰⁵² Geradin, Damien and Layne-Farrar, Anne and Padilla, Jorge, *Elves or Trolls? The Role of Non-Practicing Patent Owners in the Innovation Economy* (May 2008). TILEC Discussion Paper No. 2008-018. (hereinafter Geradin et al, *Elves or Trolls*)

¹⁰⁵³ *Id.* at 3 "we argue that the definition of all non-practicing entities as patent trolls is far too broad and is unjustified by economic theory and evidence"

¹⁰⁵⁴ *Id.* at 4

¹⁰⁵⁵ *Id.* at 5

¹⁰⁵⁶ *Id.*

¹⁰⁵⁷ *Id.* at 6

¹⁰⁵⁸ *Id.* at 8

'The emphasis on patent trolls, and their incentives and ability to practice hold up, has relied on far too sweeping a definition of trolls. In light of the analysis presented here it is clear that we cannot provide such a simplistic definition for patent troll as all non-practicing entities. Instead, we need to recognize that specialization can enhance social welfare, even in the context of patent holders. It can boost competition, raise product quality, and increase consumer choice. These procompetitive effects should be weighed when evaluating the potential for negative effects arising from the combination of patents and vertical disintegration. Ignoring these indirect benefits could lead to misguided and even harmful policy.'¹⁰⁵⁹

12.1.4 Reverse Hold-ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas¹⁰⁶⁰

Having identified the pro-competitive benefits of non-practicing entities, two years later Damien Geradin returned his attention on the problems of reverse patent holdup, which he and Rato had predicted would occur in the event that standardized IP owners were denied injunctive relief. Unlike the 2007 article, this article can be considered a specific and directed effort to rebut the patent solutions being advocated as part of the ongoing alarmism related to patent holdup. While the article repeated the background material included in previous articles, it dramatically expanded its critique of the conjecture related to patent holdup and the proposed solutions to it. The repeated background material included an explanation of the objectives of requiring FRAND Commitments, and the conflicts between their members of standards setting organizations,¹⁰⁶¹ which does not need to be reviewed here.

As far as a critique of the conjecture related to patent holdup, Geradin begins by stating that there is no empirical evidence to suggest that 'any industry standard has been significantly harmed by "holdup".'¹⁰⁶² A statement which he supports by providing an example of a case where harm was claimed, but subsequent proved did not happen.¹⁰⁶³ The article then goes on to acknowledge that while patent holdup can occur, because such occurrence is rare dramatic remedies to it are not justifiable. The significance of this position is that it clearly indicates that the conjecture related to patent holdup does not relate to the existence of patent holdup, but rather the pervasiveness of the practice.

According to the article this rarity of the practice can be attributed to four factors. First, whenever there are no alternatives to an essential IP, that IP derives its market power from its own uniqueness and not from the fact that it is included in a standard, which means that claims of patent holdup because of being included in the standard is conjecture. Second, in most technological industries, the major IP owners have ongoing licensing programs that are known to industry participants before IP is selected for inclusion in a standard, and as such claims of

¹⁰⁵⁹ *Id.* at 22

¹⁰⁶⁰ Geradin, Damien, Reverse Hold-Ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas (November 12, 2010).(hereinafter Geradin, Reverse Hold-Up)

¹⁰⁶¹ *Id.* t 4

¹⁰⁶² *Id.* at 6

¹⁰⁶³ *Id.* 'In the Qualcomm case, for instance, the complainants, six large vertically integrated firms, argued that Qualcomm fees were "excessive and disproportionate" and that they would "hold back adoption of 3G." This prediction proved entirely wrong as since 2005 the market for 3G phones has grown tremendously making 3G one of the most successful standards ever adopted.'

unknown or unavailable licensing terms is conjecture. Third, in most cases standards implementors do not invest in manufacturing equipment before a standard is set, and as such claims they are locked in is conjecture. And finally, the fact that most standardized IP owners face constraints, like the desire to have their IP included in future standards, means that the proposition that there are no IP owners once their IP has been included in a standard is conjecture.¹⁰⁶⁴

Taken together the article contents that: if all of this conjecture is eliminated the only IP owner which would practice patent holdup would be those which; 1) own an IP which can be designed around and owes it market power to inclusion in a standard, 2) is not a practicing entity and 3) has no desire to have additional IPs included in the standard. Further contending that because so few IP owners match these criteria, it severely limits the practice.¹⁰⁶⁵

In terms of critique of the proposed solution to patent holdup, the article includes these under an examination of the risks which innovators in standardized industries face. In addition to the traditional risks faced by any research endeavour, the article points out that standardized innovators face two additional risks which are; the risk associated with efforts to lower royalty rates by weakening the bargaining power of essential patent owner, the risk of competition rules to force essential IP owners to reduce their royalties. While these may have been described as risks, in reality they represent the variations of the proposed solution to patent holdup, both of which are harshly critiqued in the article.

With respect to efforts to drive down royalty rates by reducing IP owners bargaining rights, the article divides these into three identifiable strategies: proposals for collective negotiations of royalties, efforts to deprive essential IP owners of the ability to seek injunctive relief, and efforts to redefine the meaning of FRAND in order to constrain royalty rates.

According to the article, proposals for collective negotiation of royalties would take the form of all technological product manufactures engaging in joint negotiations with IP owners. The idea being that their collective bargaining power would be sufficient to counter any market power an intellectual property owner derived from being included in a standard. Geradin rebuts this proposal by pointing out that such overwhelming buying power; would force IP owners to settle for royalties which are lower than the value of their invention, would result in unduly rigid and suboptimal licensing terms and would likely breach competition law.¹⁰⁶⁶

As part of the rebuttal regarding the elimination of the ability to seek injunctive relief, the article first acknowledges how central this effort is considered for patent holdup solution proposals. After this Geradin refers to Golden's article in which Golden argues that because of the time and cost related to litigation, the threat of seeking infringement relief is seldom realized and as such not as powerful as is alleged. The more substantive rebuttal however focuses on what would happen if injunctive relief would be eliminated. Just as with the prediction provide four years earlier, Geradin focuses on how this would create an "infringer's charter", in that it would eliminate the incentive of users to negotiate licensing agreements before using the IP and force owners to seek enforcement of their patents in 'patent by patent, country by country damage claims.'¹⁰⁶⁷ The net result of which would be that:

¹⁰⁶⁴ *Id.* at 6-7

¹⁰⁶⁵ *Id.*

¹⁰⁶⁶ *Id.* 10-14

¹⁰⁶⁷ *Id.* at 15

'Faced with the prospect of spending millions of dollars and several years in the courts, patent holders would be forced to settle for royalties that would be lower than the true value of their inventions, a result that would be fundamentally un-FRAND.'¹⁰⁶⁸

The article continues by point out that, if rather than eliminating the right to seek injunctive relief for all standardized patent owners, such a rule would only be applied to non-practicing entities it would have the same consequence for those entities. A situation which would result in the paradoxical outcome in that entities which are 'most likely to license their (because licensing is their business model and they need licensing revenues) would be granted the least leverage in licensing negotiations by truncating their rights granted to them by law.'¹⁰⁶⁹ Which would 'tip the market in favour of vertically-integrated incumbents. This would impede efficiency-enhancing specialization allowing firms to focus on what they do best and harm innovation.'¹⁰⁷⁰ The article concluding this rebuttal of this proposal by claiming that in any event the injunction elimination is not supported by either statute or case law.

With respect to rebutting the redefinition of FRAND which constrained the royalties that can be charged by standardized IP owners. The article focuses on three methods which have been proposed which would achieve this objective; numerical proportionality, requiring equivalent internal ex-post and ex-ante royalty rates, and enforcing theoretical ex-ante royalty rates.

Under the numerical proportionality method, the owner's royalty would be calculated according to their proportion contribution to the standard. In rebutting this method, the article maintains that it is unworkable because: it relies on the establishment of a royalty cap, presumes that all patents are of equal value and would incentivise patent packing. The scepticism about a royalty cap is based upon the fact that any proportionality royalty calculations must multiply the determined proportion by some aggregate royalty rate, an aggregate royalty rate which would be highly contested. The scepticism about the presumed equal value of all patents being based upon the fact that different patents have different values. The scepticism about the patent packing being based upon the assumption that if it is the number of patents which determines a royalty rate this will incentives standard contributors to generate and seek adoption of marginally different but substantively indifferent patents by the standard.¹⁰⁷¹

The article's rebuttal of a method which presumes that FRAND requires licensors to provide ex ante royalties rate to ex-post licensees, relies on the difficulty of comparing individual licensing situations and the changes in the risk profile of taking a license in the two periods. With respect to the difficulty in comparing licenses, Geradin argues that all licences have their own peculiarities which can justify different pricing parameters, and as such it could be like comparing apples with oranges. In terms of changes in the risk profile he argues that once a patent is adopted by a standard, the risks with respect to licensing it are substantially reduced, and depriving owners of the ability of giving early licensees preferential terms would prevent owners from rewarding those licensees for the additional risk which they incurred. He does

¹⁰⁶⁸ *Id.*

¹⁰⁶⁹ *Id.*

¹⁰⁷⁰¹⁰⁷⁰ *Id.* at 16

¹⁰⁷¹ *Id.* at 18-19

however admit that this kind of pricing parameters could be a violation of the non-discrimination commitment.¹⁰⁷²

With respect to enforcing theoretical ex-ante royalty rates the article rebuts this method by focusing on the questions related to the application of Swanson and Baumol model, which Geradin suggest would be basis for determining theoretical ex-ante royalty rates.¹⁰⁷³ Under that model the ex-ante royalty rate would be based upon and hypothetical seller auction between IP owners of similar properties which were competing to be included in the standard based upon the royalties they would charge. What this model implies is that because the incremental cost of allowing an additional user to use the patent is near zero, this auction would result in a price which does not reflect the value provide by the patent but only the incremental value which the patent provides over alternative patents.

Geradin challenges this use of this model on the basis that it makes too many assumptions which are unrealistic, and it could result in serious under compensation. These unrealistic assumptions include; an expectation that the IP owners are not integrated manufactures, the properties are can be easily substituted, and the bargaining power of all SSO members is evenly distributed. The concerns about under compensation resting on the notion that determining royalties based upon an incremental benefit may not be sufficient to cover the research a development cost of the IP owner. What is not mentioned in this rebuttal was an analysis of; why the method would essentially represent a buyer's cartel, if FRAND was interpreted in this manner.

According to the article the final risk faced by standardized IP owners, was the risk that competition authorities would force them to reduce their royalties. To rebut this proposed solution to patent holdup, Geradin examines the European Commission investigation of Qualcomm. In analysing the case he concluded that in the absence of exclusionary behaviour there was little role that competition law could provide, because excessive pricing raised too many complex and unresolved issues.¹⁰⁷⁴

12.1.5 The FTC, IP, and SSOs: Government Hold-Up Replacing Private Coordination¹⁰⁷⁵

This paper was a practical response to a FTC report¹⁰⁷⁶ that recommended the adoption of patent holdup solutions which according to the article would 'distort the operation of the intellectual property (IP) marketplace in ways that will hamper the innovation and commercialization of new technologies.'¹⁰⁷⁷ Included in this response was; a summary of the FTC's recommendations, a description of an underlying false definition included in the proposal, the discussion of the effectiveness of private markets, a rebuttal of the FTC's reasonable royalty proposal, and a recommendation for judicial restraint.

The authors summarize the FTC proposal by dividing it into three main steps. According to them, in the first step the FTC reinterprets the meaning of willing licensor/licensee, by defining

¹⁰⁷² *Id.* at 20

¹⁰⁷³ *Id.* refer to: Daniel Swanson and William Baumol, "Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power", 73 (2005) Antitrust Law Journal 1

¹⁰⁷⁴ *Id.* at 23

¹⁰⁷⁵ Epstein, Richard A. and Kieff, F. Scott and Spulber, Daniel F., *The FTC, IP, and SSOs: Government Hold-Up Replacing Private Coordination* (August 5, 2011). Journal of Competition Law & Economics, March 2012; (hereinafter: Epstein et al, *Replacing Private Coordination*)

¹⁰⁷⁶ FTC Report, *The Evolving IP Marketplace*, (March, 2011)

¹⁰⁷⁷ FTC Rebuttal, Abstract

a willing licensor as an owner that is willing to accept the maximum price that a potential licensee would be willing to pay before the IP was adopted by a standard. In the second step the FTC shifts that period from which damage calculations are to be calculated from when the infringement occurred, when a time before the IP was adopted by the standard. The third step involves defining the amount that a willing licensee would be willing to pay as the incremental value which an IP offers over any other IP which could have been selected as a substitute for it in the standard.¹⁰⁷⁸

In addition to concerns about the lack of evidence of a systemic malfunction in the IP markets which would warrant these changes, the authors also challenge the validity of key definitions used in the proposal, which if correctly defined would dramatically alter its outcomes.

The first definition they challenge is the one provided with respect to the ex-ante negotiation period. Under the FTC definition ex-ante negotiation period, is a point in time just before the IP has been adopted as part of the standard. In rebutting this definition, the authors note that this time selection ‘Either it ignores the fact that the risk of hold-up is bi-directional, or it is intentionally calculated to empower the infringer to retroactively “hold up” the patent owner so as to drive damages awards (and hence negotiated license fees) as low as possible.’¹⁰⁷⁹ This because the proposed ex ante period does not acknowledge the sunk cost that licensors have made in research and development to create their IP, which “locks in” their costs making them just as vulnerable to patent holdup as implementors.

According to the authors, a true ex ante negotiation period would be ‘at the outset of a new technology, before either inventors or manufacturers have made the investments necessary to the success of that technology.’¹⁰⁸⁰ Under this true version all standardization members would have to agree to a fair distribution of rewards according to the risks that is born by the respective entities. For entities engaged in the research and development of the underlying technology, these rewards would need to cover the risks related unsuccessful research efforts, as well as the risks of not being selected for inclusion in the standard. Only if these risks were properly rewarded would there be a stable environment which would provide for optimal investment in the technology. The authors go further by suggesting that current SSO’s are effectively structured using this true ex ante analysis, in that they appear to provide sufficient rewards to each party to ensure ongoing technological advancements. A suggestion they support by listing some of the negative responses to the FTC’s proposed changes which have been provided by various SSO’s.¹⁰⁸¹

The second definition they challenge is the one related to patent holdup. In rebutting the FTC’s definition, the authors begin by providing two definition of patent holdout: ‘self-interest seeking with guile’,¹⁰⁸² and ‘the capture of the fruits of another’s investment’.¹⁰⁸³ They then point out that neither of definitions extends to a situation where a patent owner seeks to secure a large proportion of value of their patent, nor does it suggest that IP owners must guarantee the

¹⁰⁷⁸ *Id.* at 4-5

¹⁰⁷⁹ *Id.* at 20

¹⁰⁸⁰ *Id.* at 6

¹⁰⁸¹ *Id.* at 7

¹⁰⁸² *Id.* at 9, citing: OLIVER WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING 61-63 (1985).

¹⁰⁸³ *Id.*, citing: Joseph Farrell, John Hayes, Carl Shapiro, and Theresa Sullivan, Standard Setting, Patents, and Hold-up, 74 ANTITRUST L.J. 603, 603-04 (2007).

profits of IP users. They then compare this definition with the one used by the FTC which suggest that holdup as seeking a higher royalty than what a licensee would be willing to pay before the design choice, which would only be the incremental value that the IP has over other IP. It should be noted that this definition takes no consideration of how much end users value the innovation or how much of that value is being captured by the patent owner. So; whilst under a traditional definition holdup would only occur in instances where the royalties exceed the total value of the innovations, under the FTC's definition holdup occurs whenever royalties exceed the marginal value the IP. The inappropriateness of the FTC's definition leading the author's referring to it as "government-aided holdup." This because it would provide government support for potential licensors who are seeking to appropriate the fruits of the intellectual property owner's investment.

As practical support for this definitional difference the authors, explain how the market allows for ex ante licensing and formulating an analysis of four reasons why entities do not take ex ante licenses. First, there are entities who do not anticipate the inclusion of the IP in the standard and prove to be correct. (Because the IP is not included in the standard, there can be no holdup.) Second are entities who do not anticipate the inclusion of the IP in the standard and prove to be incorrect. (While these parties are susceptible to patent holdup, it was their own failure to correctly plan that put them in that position.) Third are parties who anticipate the inclusion of a property in a standard but choose to wait until after it is included to seek a license. (While these entities are susceptible to patent holdup, their willingness to seek an ex post license indicates that they do not view it as a major threat.) Finally, there are those that anticipate the inclusion of an IP in a standard but choose not to seek a license as they anticipate that the courts will grant them a better rate than the ex ante rate offered by the owner. (While these entities are susceptible to patent holdup, there are also practicing (reverse) patent holdup.) They therefore contend that this list demonstrates all well-planned entities can avoid patent holdup and those companies that choose to be susceptible to it either do not consider it is a problem or presume they can use reverse patent holdup to avoid it. A much different analysis than the FTC makes, when it assumes patent holdup is only due to imperfect information or differences in ex ante valuations.¹⁰⁸⁴ With respect to difference in ex-ante or even ex post valuations the authors note that, as licensors are already constrained by future standard participation desires and FRAND commitments, it suggest that the last category may be principle reason for claims of patent holdup.¹⁰⁸⁵

With respect to the specific critique of the effects of the FTC's proposal the authors begin by identifying that the proposal is specifically intended to ensure that infringers 'is to pay no more, if identified, sued, and defeated, than he would have had to pay no more than a user which took an ex ante license would pay if he had in fact negotiated a license at the time the standard was set.'¹⁰⁸⁶ This they assert would not only act as an inducement for users to engage in wilful ignorance based infringement, but it would also dramatically increase the litigation costs of owners as they would have to pursue a larger number of infringers.¹⁰⁸⁷ Such an outcome representing the opposite intent of infringement damages, which were to serve as an incentive

¹⁰⁸⁴ *Id.* at 11

¹⁰⁸⁵ *Id.* at 12

¹⁰⁸⁶ *Id.* at 15

¹⁰⁸⁷ *Id.*

for avoiding infringement, by making it more costly to infringe than to enter into private negotiations.¹⁰⁸⁸

In concluding their article, the authors focus attention on the structural change which would result from an application of the FTC's proposal which according to them would:

'lead to subtle but important shifts in the commercialization of new technologies and the overall structure of the competitive landscape. Many of these changes will be to the benefit of large firms which have the means of exploiting their own inventions and capturing value through product sales, but to the detriment of overall levels of market innovation including efforts by smaller firms and entrepreneurial startups that rely on patent protections and licensing revenues. In addition, the FTC proposals reduce voluntary contracting and increase patent litigation and potential private and regulatory antitrust enforcement actions challenging negotiated license terms. The burdens of these developments will fall particularly heavily on startups and market entrants, again favoring well-funded incumbents. All of this will discourage the small-scale entrepreneurship that has historically been a prime catalyst of our high-technology economy.'¹⁰⁸⁹

12.1.6 "Holding up" and "Holding Out"¹⁰⁹⁰

As scholars became aware of both the prospect and practice of "reverse holdup", there came to be a growing recognition that the solution to patent holdup might be worse than the problem itself. This recognition was what to lead to articles like this one by Associate Professor Chien. She begins the article by lamenting the one-sided description of patent disputes which portray innocent patent infringers being abused by unscrupulous patent owners and pointing out that the derogatory language used to frame the debate is indicative of that bias. Specifically, she illustrates how the use of the terms "patent holdup" and "patent troll" have severely negative connotation which cast patent owners as the villains of any patent dispute. Providing President Obama's quotation on patent holdup as an example of that negative connotation.¹⁰⁹¹

She continues the article by asking that when patent disputes arise equal consideration be given to a practice she calls "patent holdout". Defining "patent holdout" as 'the practice of companies routinely ignoring patents and resisting patent owner demands, because the odds of getting caught are small.'¹⁰⁹² This request being made because of an assertion that patent hold out is a widespread phenomenon; which theoretically will be practiced by large companies when they are infringing on patents owned by smaller companies, because smaller companies cannot afford extensive and expensive litigation.¹⁰⁹³ This theoretical outcome, reflecting and explaining recent litigation trends in high technology industries.

¹⁰⁸⁸ *Id.* at 16-17

¹⁰⁸⁹ *Id.* at 24

¹⁰⁹⁰ Chien, Colleen V., 'Holding Up' and 'Holding Out' (August 30, 2013). Michigan Telecommunications and Technology Law Review, Vol. 21, 2014. (hereinafter, Chien, *Holding up and Holding out*)

¹⁰⁹¹ *Id.* at 3, "hijack somebody else's idea and see if they can extort some money out of them." Citing EXEC. OFFICE OF THE PRESIDENT, PATENT ASSERTION AND U.S. INNOVATION 2 (2013), available at http://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf.

¹⁰⁹² *Id.* at 4

¹⁰⁹³ *Id.* at 4-5

Unlike earlier articles rebutting patent holdup solutions, this article is forthright in its acceptance of the reality that patent holdup does occur and has occurred for over 170 years.¹⁰⁹⁴ The main difference between earlier examples of holdup and the more modern ones being that being adopted into a standard provides patent holders with potential “super” holdup potential. A super holdup being described as happening when: there is a post ante assertion of a weak patent which reads to a standard and results in disproportional remedies for the infringement. The problem of patent holdout being address in the courts by: restricting injunctive relief, adopting the smallest component rule and more closely scrutinising patent grants. Measures which rather than reducing litigation appear to have increase it.¹⁰⁹⁵

Chien explains this this increase in litigation by pointing to: the rise of patent assertion companies which specialize in infringement actions, the continued grant of record damage awards and the ongoing litigation battles in the smartphone industry.¹⁰⁹⁶ In addition to these readily obvious causes, she also points to an overlooked cause relating to the escalating usage of patent holdout as method of lowering licensing costs. Suggesting that when entities are unwilling to enter into pro-active good faith negotiation to license essential intellectual property, it is inevitable that a good number of those infringements will be litigated. This patent holdout behaviour also representing a historical practice, which has been recognised for decades.¹⁰⁹⁷ According to her, included in this reactive litigation is subset of patent holdout, called “reverse patent holdup”, which she defines as implementors ignoring licensing requests on the pretext that they are not fair of reasonable.¹⁰⁹⁸

Illustrating the respective claims made by litigants, the article identifies three crucial differences between patent holdup and holdout arguments. Whereas defendants often claim that owners wait until their IP have been adopted by a standard before assertion, plaintiffs counter-claim that their offer to enter into ex ante licensing negotiations are ignored until the IP is adopted. Whereas defendants will often claim that their holdout behaviour was based upon invalidity concerns, plaintiffs will counter-claim that invalidity defences are too often repetitive and spurious. Finally, while defendants claim that patent holdup is driven by excessive remedies, plaintiffs counter-claim that high damages are needed not just to cover excessive litigation cost, but to offset the deterrent effect of excessive litigation costs.¹⁰⁹⁹

One of the more remarkable aspect of this article is the balanced approach which it takes to the problems, recognising the existence and rational behind both forms of abusive behaviour. This balanced approach also being evident in the solutions advocated by Chien which were: the elimination of the duplication of infringement actions in multiple jurisdiction, early resolution of invalidity and infringement questions, early determination of intellectual property value ranges, and promotion of proportional litigation costs. Unlike the one-sided solutions which have been proposed to solve patent holdup, proposed solution represent mutually beneficial objectives which could be theoretically supported by all parties.

¹⁰⁹⁴ *Id.* at 7

¹⁰⁹⁵ *Id.* at 9-10

¹⁰⁹⁶ *Id.* at 11

¹⁰⁹⁷ *Id.* at 13

¹⁰⁹⁸ *Id.*

¹⁰⁹⁹ *Id.* at 16-17

12.1.7 Patent “Trespass” and the Royalty Gap: Exploring the Nature and Impact of Patent Holdout¹¹⁰⁰

Once patent holdout was identified in legal scholarship as a serious legal problem, research on the topic intensified, with other articles providing greater insight in to the practice. Included in those articles was this one by Professors Heiden and Petit, which provides one of the clearest and most comprehensive study of the phenomena.

This study commences with a discussion of the theory behind economic holdout and narrative of how patent dispute thermology has been twisted in a manner which prejudices the interests of patent infringers over those of patent owners. In discussing the theory behind economic holdout, the author explain that holdout has been a concept that has existed in economic theory for a considerable amount of time. That in its simplest form, it refers to a situation where economic agents cannot act without the consent of some other agent and that consenting agent withhold that consent for any reason.¹¹⁰¹ The historical examples given to illustrate this situation: include oil field utilization disputes,¹¹⁰² land assembly,¹¹⁰³ corporate takeovers,¹¹⁰⁴ and wage negotiations.¹¹⁰⁵ The author’s point out that as in each of these cases the owners effectively use their property rights to extract a high price for their property, it is ‘unsurprising that the concept of holdout has also been used in relation to intellectual property rights (“IPRs”) in general and patents in particular.’¹¹⁰⁶ An expectation which the authors note was identified by Professor Golden when he described “patent holdout” as patent owners making demands for better deals (holdout premiums) by using threatening to seek injunctive relief (holdout threats) against infringers.¹¹⁰⁷ A terminology which was later specialized to refer to a situation where patent owners sued for excessive royalties for patents which were included in a technological standard.¹¹⁰⁸

The ability to practice patent holdout being founded on the property rules related to exclusive property rights which provided owners with a subjective right to determine the price which they could charge for the use of their property. This converse of this rule being that the unauthorized of someone else’s property should be treated as ‘trespass, theft, or piracy’,¹¹⁰⁹ all of which are unlawful. What is noticeable about this analysis is that it clearly frames the patent infringement in a negative light: with the owner being depicted as merely profit maximising from a situation where their properties provide them a strong bargaining position, and infringers

¹¹⁰⁰ Heiden, Bowman and Petit, Nicolas, Patent ‘Trespass’ and the Royalty Gap: Exploring the Nature and Impact of Patent Holdout (June 6, 2017 (hereinafter: Heiden and Petit, The Royalty Gap)

¹¹⁰¹ Heiden & Petit, *Patent Trespass*, at 5-6

¹¹⁰² *Id.* at 6: citing; Jongwook Kim and Joseph Mahoney, *Resource based and property rights perspectives on value creation: the case of oil field unitization*, Managerial and Decision Economics 23.4-5 (2002): 225-245

¹¹⁰³ *Id.*: citing; Patricia Munch, *An economic analysis of eminent domain*, The Journal of Political Economy (1976): 473-497

¹¹⁰⁴ *Id.*: citing; Mami Kobayashi, *The Role of Large Shareholders in Hostile Takeovers*, Working Paper Series No. 4, Faculty of Economics, Kinki University, (2005)

¹¹⁰⁵ *Id.*: citing; Steinar Holden, *Wage bargaining, holdout, and inflation*, Oxford Economic Papers 49.2 (1997): 235-255

¹¹⁰⁶ *Id.* at 8

¹¹⁰⁷ *Id.*: citing; John Golden. “Patent trolls and patent remedies.” Texas Law Review 85 (2006): 2111

¹¹⁰⁸ *Id.* at 9

¹¹⁰⁹ *Id.*

being portrayed as criminal entities breaching the property rights as a result of a weak bargaining position.¹¹¹⁰

The authors imply that in order to counter this perception it was necessary for patent holdup scholars to abandon this historically appropriate terminological description of the situation and create a new perception through the introduction of the terminology and theory relating “patent holdup”. According to the authors this was in a large part accomplished through four policy papers and/or articles, all of which were either authored or co-authored by Professor Carl Shapiro.¹¹¹¹ In the first of these papers Professor Shapiro described how “cumulative innovation” could be blocked by “blocking patents” which meant that those blocking patents were “holding up” technological development.¹¹¹² This concept of holdup being expanded to include situations where owners of “hidden patents” wait until a product is in large scales production before seeking excessive royalties by threatening to seek injunctive relief. This expansion was likely accepted because both behaviours cast the patent owner as a “bad actor”. However, this expansion could have been avoided by recognising the latter behaviour as represented a classic “patent holdout” position, particularly when in the same paper the term was expanded to include situation where the manufacturer inadvertently infringed on a public patent.¹¹¹³

In the second paper written with Professor Mark Lemley the “patent holdup” terminology was further expanded to any situation where a patent owner sought to charge more than a technological product manufacture would have been willing to pay before the patent was adopted by a standard. In doing so it became the terminology which was casting the owner as a “bad actor”, even though it overturned a patent owner’s historical rights to set the price for the use of their properties and forced patent owners to except royalty rates at a lower level than the value inherent in their properties.¹¹¹⁴

The third paper further expanded and ingrained this terminology by describing “patent holdup” from an economic prospective.¹¹¹⁵ The expansion coming in the form of argument which suggested that whenever a patent owner use the threat of injunctive relief to secure higher royalty rates it should be considered patent holdup, even if the implementor has not made any investments before a licensing offer is made. That the mere threat of seeking injunctive relief for un-authorised usage is somehow patent holdup. It ingrained the terminology by once again using patent holdup rather than patent holdout to describe the owner’s behaviour.¹¹¹⁶

¹¹¹⁰ *Id.* at 9-13

¹¹¹¹ *Id.* at 14 ‘Amongst this scholarly thicket, the seminal economic works are essentially traceable to four papers, the common thread of which is to feature Berkeley economist and former US DoJ official Professor Carl Shapiro as author or co-author. Those four papers consist of: a non- formal policy paper of 2001 ... ; a formal economics working paper of 2006 which was later published in the American Law and Economics Review ... ; one interdisciplinary paper of 2007, written with the famous IP lawyer Mark Lemley, funded by several high tech firms, and published in the Texas Law Review ... ; and one antitrust paper of 2007 written with Professor Joseph Farrell and two economic consultants’

¹¹¹² *Id.*: at 15; Citing Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in A. Jaffe, J. Lerner, and S. Stern, eds., *Innovation policy and the economy*, Vol. 1. Cambridge, MA: MIT Press (2001), pp. 119-150, at 125

¹¹¹³ *Idid*

¹¹¹⁴ *Id.* at 16-17

¹¹¹⁵ *Id.* at 17: citing; Carl Shapiro; *Injunctions, Hold-Up, and Patent Royalties*, American Law and Economics Review, Volume 12, Issue 2, 1 October 2010, Pages 280–318

¹¹¹⁶ *Id.*

The finally paper which the authors point to as changing perceptions in patent disputes was an antitrust paper which focused on the anticompetitive nature of patent holdup.¹¹¹⁷ In this paper the authors suggest that Shapiro sought to equate “patent holdup” and “opportunism” under a ‘specific field of economics called “transaction cost economics”(“TCE”).¹¹¹⁸ Referring to patent holdup as relating to situation where the potential user has invested sunk costs in preparation for participating in patent reliant technology, where patent owners and the potential user are unable to agree on FRAND royalties. Shapiro suggesting that patent holdup can occur even when patent owners not engaged in guile, ambush or deceit and are willing to licence their IP at FRAND rates determined themselves. All that is required for this expanded definition of patent holdup is that; they refuse to license their patent at rates considered FRAND by potential licensees. The antitrust implication being that such behaviour should be treated the same as patent holdout which was based upon guile, ambush or deceit.

Having described how the perceptions of patent disputes have been reversed with patent owners cast as the “bad actor” and patent infringers as the victims, the authors turn their attention to how this new perception can be overcome. While the most obvious way of doing this would be to return to the historical terminology of patent holdup they concede that patent holdup has so infiltrated the debate that it would be difficult to return to historical definitions. As such they focus their attentions on attempting to frame the terminology which describes situations where standard essential IPs are infringed by entities who are unwilling to enter into good faith private negotiations with patent owners and instead rely on the threat of excessive litigation and user-friendly IP courts to minimize licensing cost. While they concede that this too can be described as classical holdout situation,¹¹¹⁹ they recommend the use of the term “patent trespass”.¹¹²⁰ In framing this type of behaviour as patent trespass, the authors are intentionally engaging in the same sort of normative terminology that was used with patent holdup. Which is to say that they are casting the behaviour in a negative light, which implies that the infringer is engaged in unlawful behaviour. This they argue is the most effective and appropriate response to the empirical issues related to patent disputes because it will provide a better balance to the debate.¹¹²¹ In addition to suggesting a method of balance the debate through terminological techniques the paper also provides a clear analysis of why this is needed. They do this by providing a detailed analysis of what is meant by “patent trespass”, how it occurs and the negative consequences for owners of it being allowed to occur. An analysis which they claim is totally lacking in holdup literature.¹¹²²

According to the authors ‘patent trespass can be said to arise when a SEP holder’s licensing revenue decreases, because some (or all) technology implementers avert, either temporarily or permanently, the conclusion of a licensing agreement on terms that correspond to recognized industry practices.’¹¹²³ Under this definition fits practical behaviour like: avoiding negotiation until legal suits are filed or engaging in diversionary legal tactics once suits are filled. This

¹¹¹⁷ *Id.* at 18: citing; O Joseph Farrell, John Hayes, Carl Shapiro, and Theresa Sullivan, *Standard Setting, Patents, and Hold-up*, *Antitrust Law Journal*, 74.3 (2007): 603-670.

¹¹¹⁸ *Id.*

¹¹¹⁹ It can be defined as a classic holdout situation because the investments to develop the IP are sunk cost which the owner made in the expectation of private licensing contracts which are being withheld.

¹¹²⁰ *Id.* at 33

¹¹²¹ *Id.*

at 34-35

¹¹²² *Id.* at 23

¹¹²³ *Id.* at 35

practical behaviour being defined by other scholars as reverse patent holdup,¹¹²⁴ and still other defining reverse patent holdup as occurring when royalties are fixed below FRAND and/or fair market rates.¹¹²⁵

In terms of why IP users engage in patent trespass, rather than engaging in good faith negotiations, the authors state that the consensus is ‘that limitations to the availability of injunctive relief – categorically or discretely – contribute to the formation of patent trespass’.¹¹²⁶ They further explain that when injunctive relief is unavailable and the only remedy for infringement is damages which are equal to the royalties which would have been paid before the infringement occurred not only eliminates the incentive to enter into ex ante licensing negotiations but incentivises patent trespass. This because; in the worst-case situation the trespasser will have to pay damages they would have had to pay if they had secured a license, in the best the IP owner cannot afford to sue, and they will get to use the IP for free, and in most cases IP owners will settle for substantially reduced licensing royalties because they do not want to engage in protracted and expensive litigation.¹¹²⁷

In distinguishing patent trespass from the infringement behaviour contained in patent holdup articles the author declare that patent trespass is: 1) an intentional act, 2) which seeks to delay the payment of royalties, 3) as well as seeking to reduce or eliminate royalty payments to IP owners, 4) by forcing IP owner to choose between engaging in excessive litigation and marginal royalty payments 5) for the purpose of providing the infringer with a price advantage in a competitive market.¹¹²⁸ This description being significantly different than patent holdup description of: an accidental infringer, resisting excessive licensing demands.

In concluding their description of patent trespass, the authors point out that it is this final point about patent trespass, providing a cost advantage in the market that has made the practice a systemic concern, as ‘This “*race to trespass*” effect will be especially true for technology implementers with low margins competing on cost advantage strategies.’¹¹²⁹ The potential systemic effect of patent trespass theoretically materializing as a ‘decrease in the incentives of patent owners to invest in future technologies.. or to participate and contribute technology to SSOs. ... [which] would manifest itself in the performance or delay in the development of new standards’.¹¹³⁰

Having developed the terminology of patent trespass the authors sought confirmation of their analysis by conducting interviews with IP owners. In addition to confirming much of their analysis the owners also provided input on additional factors which incentivise patent trespass which they describe as follows: First, patent trespass is dependent upon the relative size, resources and reputation of the parties. Second, systemic effects occur when more than 30% of the relevant market is unlicensed. Third, patent trespass becomes institutionalized when more

¹¹²⁴ *Id.* at 36: citing; Scott Kieff and Anne Layne-Farrar, Incentive Effects from Different Approaches to Holdup Mitigation Surrounding Patent Remedies and Standard-Setting Organizations, *Journal of Competition Law and Economics* 9.4 (2013): 1091-1123.

¹¹²⁵ *Id.*: Citing; Gregor Langus, Vilen Lipatov and Damien Neven, *Standard-Essential Patents: Who Is Really Holding Up (and When)?*, *Journal of Competition Law and Economics* 9.2 (2013): 253-284.

¹¹²⁶ *Id.* at 38

¹¹²⁷ *Id.* at 39-40

¹¹²⁸ *Id.* at 41-4

¹¹²⁹ *Id.* at 45

¹¹³⁰ *Id.* at 51

than 30% of the market is unlicensed. Fourth, lack of clarity in the legal framework induces patent trespass. Fifth, the systemic effects are real.¹¹³¹

In concluding their paper, the authors suggest that: patent holdup terminology is misguided and creates a systemic trap, because the concept of patent holdout does not provide a sufficient counterbalance to the normative terminology of patent holdup, patent trespass should be used, and empirical evidence supports the systemic effects of that patent trespass. All of which leads them to conclude that: ‘that patent trespass is a significant phenomenon, which deserves as much attention from courts and policy-makers as the patent holdup narrative.’¹¹³² More specifically recommending that:

‘While the patent holdup narrative has been the driver of several competition policy initiatives in the past decade, it is less obvious whether patent trespass has received consideration from competition authorities. If our preliminary finding is right that patent trespass can generate adverse effects on economic efficiency, this calls into question whether competition policy resources are deployed towards the right market failure. To be more concrete, should competition policy remedies also be deployed towards anti-competitive behavior by SEP implementers that could have a systemic impact on economic efficiency, in particular, dynamic efficiency? This could manifest itself through collusion to change IPR policies in SSOs to reduce SEP payments or through cartelization of actors in emerging markets to avoid SEP payments.’¹¹³³

This recommendation like the overall article provides one of the best articulations of the problems, although it appears to be missing a balanced solution which would reflect the rhetorical balance it advocates.

12.2 Patent Holdout Literature and Correlated Rights

Before attempting to analyse whether and how patent holdout literature provides indirect support to an application of the correlated rights doctrine in IP law, it is worth repeating the earlier definition on the doctrine, which was as follows:

‘When multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the total value of that property and the law should protect that share from being appropriated by others, including other owners and users.’

Despite of intrinsic simplicity and equity of this definition, its application in intellectual property law will undoubtedly represent a highly contentious proposition. A contentiousness which can be anticipated given the existing contentiousness of the much simpler propositions that are contained in patent holdup and patent holdout literature. These controversies even going so far as representing an unwillingness to acknowledge the existence of the two problems identified by the opposing sides. Assuming this intractability positions were to be maintained, the chance of correlated rights being given fair consideration would be minimal. Fortunately,

¹¹³¹ *Id.* at 54-55

¹¹³² *Id.* at 67

¹¹³³ *Id.* at 68

there has been an evolution of patent holdout scholars towards a more balanced position, which has provided an opening for eventual support of an application of correlated intellectual property rights. Evidence of this potential support being reflected in the similarity of the foundational analysis and propositions used for both patent holdout and correlated rights. The primary difference revolving around the proposed solution the problems of patent holdup and holdout.

While these similarities could be illustrated by examining how the correlated right's propositions relate to the summary of the patent holdout arguments included in the previous part of this chapter, this would result in the reverse of the desired analysis. What is desired is not an analysis of whether correlative rights propositions are compatible with patent holdout analysis, but rather whether patent holdout analysis is compatible with correlated right's propositions. Obviously to facilitate this type of analysis it is essential that the propositions underlying the advocacy of an application of the correlated rights doctrine be clearly listed. Those propositions are as follows:

- Intellectual property law is intended to prevent third parties from appropriating the value created by innovators and ensure that the inventors can capture the value provided by their innovations.
 - Patent holdup is facilitated and will occur when correlated intellectual property owners are granted relatively automatic injunctive relief and/or excessive damages, based upon exclusive property rights.
 - Patent holdout occurs when intellectual property rights are overly restricted in response to patent holdup.
 - Both patent holdup and holdout appropriate value from innovators.
 - Patent holdup and patent holdout are not solved by FRAND commitments
 - Proposed patent holdup solutions contain systemic errors with substantially undervalue IP contributions
 - Because the aggregate innovative value provided by correlated technological product is dependent upon intellectual property contribution from multiple owners, the individual value which individual owners are entitled to; must be correlated to the value that their properties contribute to that aggregate value. (i.e.: as required by an application of the correlated rights doctrine)
-
- IP law is intended to prevent third parties from appropriating the value created by innovators and ensure that the inventors can capture the value provided by their innovations.

As the traditional definition of IP rights is the provision of a monopoly to the inventor of a new and useful invention and the traditional justifications provided for granting that monopoly right are: to support the capitalistic principle which suggest that individuals are entitled to reap the fruits of their labour and to incentivise innovation, it could be assumed that this proposition would be uncontroversial. However, it turns out that many authors of patent holdup articles disagree with this proposition. Instead, they suggest that an inventor is only entitled to what the amount that an oligopsony (monopolistic buyer's cartel) would be willing to pay for the use of

their invention, which in turn can be determined by a heavily discount calculation methodology include in their work.¹¹³⁴ The 80% difference between the value the invention and the price that the oligopsony would be willing to pay; being appropriated by the oligopsony members, who would theoretically past thought to consumers in the form of lower prices for the technological products.¹¹³⁵

As can be expected this rejection of historical definition and justification is not supported in patent holdout article. In addition to adhering to tradition notions of patent rights,¹¹³⁶ they also point out that rights are already constrained by several bilateral negotiation considerations¹¹³⁷ and there is no statutory provision supporting Lemley and Shapiro's proposed constraints.¹¹³⁸

- Patent holdup is facilitated by relatively automatic injunctive relief and/or excessive damage awards

This proposition is central to an advocacy promoting the application of correlated rights. For without a systemic problem like patent holdup, there would be no point in advocating for a change in intellectual property law. Notably in the initial patent holdup rebuttals were claims insufficient evidence of a systemic problem, which was used to argue against proposed patent holdup solutions.¹¹³⁹ An argument which became somewhat theoretical as the application of patent holdup solutions effectively eliminated automatic injunctive relief and dramatically reduced damage awards. This theoretical debated fuelled by anecdotal examples on one side and a lack of pervasive examples on the other.

What was not disputed in patent holdout articles was that holdup could theoretically occur if patents belonging to industrial standards were provided with automatic injunctive relief or excessive damage awards.¹¹⁴⁰ This recognition by patent holdout scholars of a theoretical systemic problem, (but for the application of patent holdup solutions), standing in stark contrast

¹¹³⁴ Lemley and Shapiro Patent Holdup and Royalty Stacking (2007) '.

¹¹³⁵ See Chapter 3

¹¹³⁶ See for e.g.: Golden, *Patent Trolls and Remedies*, 'In general, patents are believed to serve their constitutional purpose of "promot[ing] . . . Progress" by providing for an exchange: in exchange for public disclosure sufficient "to enable any person skilled in the art . . . to make and use" a novel, useful, and nonobvious invention, the public provides a limited-term "right to exclude" others from exploiting that invention.' at 2123;

¹¹³⁷ Epstein et al, *Replacing Private Coordination*, at 10-13

¹¹³⁸ See for e.g.: Geradin and Rato, *A Dissonant View*, 'While the right of IP holders to seek injunctive relief is expressly guaranteed under US federal law, it is also recognised under international trade law and EU law.' at 16; Geradin, *Reverse Hold-Up* 'a FRAND commitment by an essential patent holder cannot be interpreted as an implicit waiver to its right to seek injunctive relief as recognised in the law. Such an interpretation would be in sharp contradiction to an established principle of law according to which the waiver of a right can never be assumed lightly and must always be made explicitly or must at least be derived from circumstances that cannot possibly be interpreted any differently than the right owner's consent to waive its right.' at 17

¹¹³⁹ See for eg.: Geradin and Rato, *A Dissonant View* at 22-23; Golden, *Patent Trolls and Remedies*, 'Lemley and Shapiro's empirical evidence is to scattered and incomplete to make up for the deficiencies in their theoretical model.' at 2161; Geradin et al, *Elves or Trolls* at 3; Geradin, *Reverse Hold-Up* at 6; and Epstein et al, *Replacing Private Coordination*, 'no one should propose major alterations in law without first identifying a systematic malfunctioning of the current market place.' at 5

¹¹⁴⁰ See for eg.: Geradin and Rato, *A Dissonant View* at 15; Golden, *Patent Trolls and Remedies* 'Consequently, although Lemley and Shapiro do show a mechanism through which a patent holder *might* be overcompensated, they have not proven that such an event has actually occurred and certainly have not proven that it occurs systematically.' at 2161; Geradin, *Reverse Hold-Up*, at 7; Chien, *Holding up and Holding out*, at 7-8; Heiden and Petit, *The Royalty Gap* 'Make no mistake, We do not pretend that patent holdup theory is disingenuous. It is a plausible problem at the theoretical level' at 33.

to the reluctance to accept the existence of a systemic patent holdout problem by patent holdup scholars. An unwillingness that that can be largely attributed to a disagreement over the definition of reasonable royalties and how they should be calculated.

- Patent holdout occurs when intellectual property rights are overly restricted in response to patent holdup.

While like the correlated rights analysis, all patent holdout articles explain how anti-patent holdup restrictions placed on historical patent rights patent will encourage patent holdout, this does not mean that this analysis and articles are identical. The main difference being that; the correlated rights analysis focuses on legal attrition, while most patent holdup articles tend to focus on injunctive relief limitations.¹¹⁴¹ In the correlated rights analysis, this legal attrition focus suggests that after courts started to allow legal attrition to be used as a defence against patent holdup, they could not deny the same behaviour when it was being used for patent holdout. That regardless of the availability of injunctive relief when infringers are allowed to weaponize the legal system by engage in legal attrition it will inevitably result in patent holdout.¹¹⁴² In the patent holdup articles, their injunction relief argument suggest that when the courts limited an owner's right to injunctive relief, it eliminated the incentive to engage in ex ante private negotiation.¹¹⁴³

While this might appear like a trivial difference, given the reciprocating acknowledgement of the arguments in the respective analysis, it could have profound implication with respect to providing patent holdout scholarly support for correlated rights. This because; if the patent holdout scholars require that any solution to patent holdout must include automatic injunctive relief, it is unlikely that they will support a correlated rights application which only grants injunctive relief against unwilling licensees. If this withdrawal of support is to be avoided; it must be understood that while the correlated rights analysis acknowledges that the limitations on injunctive relief incentivise patent holdout, it also acknowledges that automatic injunctive relief incentivise patent holdup, which means another solution must be found. That solution involves provide the courts with the discretion to set higher damages for infringers they believe have engaged in patent holdout.

- Both patent holdup and holdout appropriate value from correlated patent owners

This proposition provides the driving incentive for seeking a redefinition of patent rights under an application of the correlated rights doctrine. While historically strong patent rights were designed to protect the appropriation of value from standalone patent owners through a

¹¹⁴¹ Chien, *Holding up and Holding out*, represents an exceptions to this observation as it clearly focuses on legal attrition as a primary cause of patent holdout. at 12-14

¹¹⁴² See Chapter 3

¹¹⁴³ See for e.g.: Geradin and Rato, *A Dissonant View*, 'if its only relief were an ex post award of damages, standards' adopters would be invited to take their chances in court and begin immediately using the invention without trying to obtain a licence. For those adopters, the worst case scenario would merely be a requirement to pay damages once a court had established the infringement. It would therefore be akin to compulsory licensing. Such an interpretation of the FRAND commitment would be a patent infringers' charter and would provide an incentive for implementers of a standard to refuse beforehand to enter into licence agreements on FRAND terms. In those circumstances, patentees would arguably prefer to settle for a licence on terms that would not provide a fair return on their investment, in other words terms which would not comply with FRAND, rather than face lengthy, onerous and uncertain court proceedings for the award of damages' at 17

grant of injunctive relief, it is clear that the same injunctive relief was abused to deprive integrated patent owners of value of their contributions to an integrated technology. While the solutions to patent holdup effectively ended that abuse by severely curtailing patent rights, it has facilitated the appropriation of patent owner value through patent holdout.

While there are volumes of patent holdup literature which describe the appropriation method of patent holdup, it is only the patent holdout articles which acknowledge that appropriation can occur as a result of either patent holdup or patent holdout.¹¹⁴⁴

- Patent holdup and patent holdout are not solved by FRAND commitments.

Unlike the first three propositions this proposition is disputed in several patent holdout articles. The most direct rebuttal provided in the articles co-authored or authored by Damien Geradin. The first of these articles is specifically writing in defence of FRAND's role in preventing patent holdup¹¹⁴⁵. The second describing how the proposed patent holdup solution would be detrimental to FRAND objectives.¹¹⁴⁶

Even in the patent holdout articles which don't contain an aggressive advocacy for FRAND, there is an implied assumption that FRAND will be effective in solving these problems. This because; they assume the historical legal treatment is sufficient to solve patent holdup, and RAND commitments are part of the that legal status quo. While it is not specifically stated it must be assumed this belief in FRAND also leads to the conclusion that a proper application of FRAND would resolve patent holdout. This because; if it is the application of patent holdup solutions which facilitates patent holdout, FRAND eliminating the need for that solution must also prevent patent holdout.

The trouble with these propositions is that they run aground on the cold hard reality that both patent holdup and patent holdout have occurred when FRAND commitments have been in place. The former prior to that application of the patent holdout solution and the later after their application. If in fact FRAND was capable of preventing these problems, they should not have occurred or at least they should not have occurred on a systemic basis.

While Geradin and Rato try to deny that the lack of a reliable definition for FRAND is a problem, they basically do so by assuming that all parties effected by a FRAND commitment are themselves reasonable and will negotiate in good faith.¹¹⁴⁷ If the assumption about reasonable

¹¹⁴⁴ See for e.g.: Geradin and Rato, *A Dissonant View*, 'The intuition is that a manufacture facing shutdown or a costly product redesign will be willing to pay considerably more than a patent is "worth" to avoid those costs' at 23; Geradin, *Reverse Hold-Up*, 'In light of these developments, innovators may be at risk of "reverse holdups" whereby their reward would be inferior to than the contribution of their technology to the standard' at 8; Epstein et al, *Replacing Private Coordination*, 'Either it [the FTC] ignores the fact that the risk of holdup is bi-directional, or it is intentionally calculated to empower the infringer to retroactively "hold up" the patent owner so as to drive damages awards (hence the negotiated license fees) as low as possible.' at 20; Chien, *Holding up and Holding out*, 'Patent hold-out is widespread, for both legal and practical reasons. While the hold-up story is sympathetic to defendants, the hold-out story tells the plaintiffs' side. Reconsider the story from before, but now put yourself in the patentee's shoes, and imagine that the company selling the product is a large, not small, company. As an inventor you had the idea first and wanted to start a business on it. You tried, without luck, to get the product commercialized successfully, though you did get a patent. You find the technology being deployed by a large company and approach it to sign a license. The company ignores you and refuses to engage or license the patent, no matter how strong it is or reasonable your offer.14 The large company is "holding-out" on your patent demand.' at 4

¹¹⁴⁵ Geradin and Rato, *A Dissonant View*

¹¹⁴⁶ Geradin, *Reverse Hold-Up*

¹¹⁴⁷ Geradin and Rato, *A Dissonant View*, 'the fact that FRAND is not further defined cannot be viewed as a shortcoming of SSOs IP policies. Much to the contrary, it is the very absence of a definition mechanically

parties is discarded and good faith negotiations become spurious; a generalised clause which does not define the specifics of reasonable behaviour or good faith negotiations will have effectively invited abuse.¹¹⁴⁸

- Proposed patent holdup solutions contain systemic errors with substantially undervalue IP contributions

Given that most the patent holdout articles dispute the definition and method of calculating reasonable royalties it could be suggested that this rejection is in conformity with the second proposition underlying an application of the correlated rights doctrine. While in general terms this would be a correct inference, that inference must overcome the proviso that the respective rejections do not rely on identical reasoning. To determine if the inference is truly correct it is necessary to first identify examine how many reasons are common and second check whether the discrete reasons used in patent holdout articles are compatible with the rationale used in the correlated rights analysis and vis versa.

In terms of common reasons for rejecting the proposed patent holdup solutions, a foundational similarity is that both suggest that the framing of the solution is based upon false assumptions related to the nature of the patent owner and users. Particularly the assumptions that patent owners use guile to create infringement traps and unsuspecting are ambushed by owners who hid their patents until they have made sunk cost investments in manufacturing. Assumptions which turns the owner into a villain and the infringer into a victim, thereby providing the courts with a justification to take a more favourable view towards the users.¹¹⁴⁹ As correlated rights analysis suggests, and many patent holdout articles make clear; in most patent disputes it is the owners who are openly seeking to negotiate with all potential users and the users which seek to avoid negotiations.¹¹⁵⁰

From a more methodological prospective, the main similarity is a rejection of the notion that it is the users which should get to determine what is a reasonable royalty. This notion reflecting a role reversal in traditional licensing negotiations where it is the owner that gets to determine the price they want for use of their properties. While this may not be as significant if the factors used to calculate reasonable royalties are the same regardless of who does the

translatable into concrete terms that bestows on the FRAND commitment the suppleness required to achieve one of the fundamental aims of standardization, i.e. to ensure the widest availability of the technology embodied in the standard in the widest possible variety of circumstances. In this respect, FRAND is very much akin to a general clause. 'at 11

¹¹⁴⁸ Robert Skitol, *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard-Setting*, (2005) *Antitrust Law Journal* 727

¹¹⁴⁹ See: Heiden and Petit, *The Royalty Gap*, 'holdup thus moves the terms of the debate, in a sense that throws a whiff of suspicion on patent owners' at 28

¹¹⁵⁰ See: Geradin, *Reverse Hold-Up* 'hold-up conjecture assumes that licensing terms were unknown and unavailable prior to standardization, which is often not the case' at 6; Epstein et al, *Replacing Private Coordination*, 'Nor, in the large majority of cases, will there be any difficulty in identifying -even prior to the adoption of a standard-the counterparties from which a manufacturer will need a license' at 11; Chien, *Holding up and Holding out*, 'patent holders need to resort to ex post assertions because manufacturers ignore ex ante demands, and, in many cases don't take steps to clear products prior to their release even though they are arguably in the best position to determine whether any patents read on their plans, since they know what they are or aren't doing. The "troll" isn't lying in wait, but rather languishing, having asked repeatedly for help, and repeatedly been rebuffed.' at 15; Heiden and Petit, *The Royalty Gap* 'those specifications fare poorly with the private standard setting context, where patents receive exposure at several iterative stages: ex ante disclosure requirements, ongoing technological scrutiny in patent committees and ex post dissemination through the standards publication and the creation of standard essential patent databases by SSOs.' at 16

calculation, it is still an important element of the negotiations as it predetermines whether those negotiation will be constructed on an upward or downward basis. The upward basis placing the burden on the owners to justify why the reasonable royalty should be higher than that proposed by the user, and the downward basis placing the burden on the user to justify why the royalty should be lower than that suggested by the owner.

In addition to this one common methodological analysis included in one article is another point of potential commonality which had not been used in the correlated rights analysis. That methodological challenge questioned the timing of the ex-ante period used when establishing a reasonable royalty. This challenge which was included in Epstein, Kieff and Spulber's paper, noted that if an ex-ante period was to be used when calculating reasonable royalties, that period should be before either the inventor or the potential user made any investments in developing the technology.¹¹⁵¹ Their point being that the sunk research and development costs, are just as sunk as manufacturing costs. Not only are they just as sunk, they are much riskier, because unlike manufacturing investments there is no certainty that the product development will be successful or that a successful development will be adopted in a standard. While defining the ex-ante period in this manner would be contrary to the proposed pricing principles under an application of the correlated rights doctrine, it may not matter because it would appear to be an unworkable proposal. It would appear to be unworkable because there is no way to anticipate how much investments in research and development is necessary, or to tell which investments will be successfully incorporated into the standard.¹¹⁵² Not to mention that it is unlikely that an agreement could be reached on dividing up the rewards before there are any rewards to divide up. Given the impracticality of such an ex ante definition, this challenge to the patent holdup definition, can be interpreted as a challenge to any discounted ex ante definition. If this is the case, this would be entirely in keeping with correlated rights methodology which is based upon the ex post value of an IP.

As with the general methodology, there are both common and discrete reasons why the reasonable royalty calculations proposed under the patent holdup solution are rejected by the respective analysis. With respect to commonality, each analysis takes issue with the proposed discount based upon bargaining power. Both these rejections being based upon lack of a discriminatory statutory provision which would allow for such a discount.¹¹⁵³ The next closest thing to a common rejection revolves around the proposition that the calculation should somehow be based upon the incremental value the selected IP has over the next best unselected IP. In the patent holdout analysis this rejection is made based on the expectation that there will never be agreement on how much incremental value should be attributed to the standardised IP.¹¹⁵⁴ While this would appear to be a valid point, under a correlated rights analysis incremental value is rejected because it assumes that the unselected IP has zero value. There is of course no reason why the patent holdout reason for rejection could not be included in a correlated rights analysis and as such could be considered common. The unanswered question is whether the "zero value" rejection rational would be regarded as valid by patent holdout scholars. Equally unknown is whether they would consider; the rejection of the invalidity discount, and the Nash

¹¹⁵¹ See for e.g.: Epstein et al, *Replacing Private Coordination*, at 6

¹¹⁵² Golden, *Patent Trolls and Remedies*, at 2125

¹¹⁵³ Id. at 2141

¹¹⁵⁴ Id. at 21

Equilibrium misuse critique, to be valid.¹¹⁵⁵ While these particular reasons are not raised in the holdout articles, what is raised is the notion that the proposed patent holdup calculation methods result in substantial under valuation of standardised IP, which would suggest that the authors would be open to an analysis which explains that undervaluation.¹¹⁵⁶

Another common reason for rejecting the proposed patent holdup solutions is that the solution both argue that statutes covering intellectual property law do not support the curtailment of royalties in the methods proposed by patent holdup articles. More specifically Geradin and Rato claim that even FRAND commitments do not curtail exclusive rights provided under IP law,¹¹⁵⁷ Golden claimed that the 'Patent Act itself decrees that reasonable royalty is the minimum, rather than the maximum, that a patent owner should obtain through court proceedings',¹¹⁵⁸ and Epstein, Keiff and Spulber argued that the 1952 Patent Act strengthened patent rights against encroachment by anti-trust law.¹¹⁵⁹

- Because the aggregate innovative value provided by correlated technological product is dependent upon IP contribution from multiple owners, the individual value which individual owners are entitled to; must be correlated to the value that their properties contribute to that aggregate value. (i.e.: as required by an application of the correlated rights doctrine)

The final correlated rights proposition is perhaps the most controversial with respect to patent holdout articles. This controversy is in full display in the sections of the articles which specifically condemn proposals for royalty caps and proportionate royalty allocations.¹¹⁶⁰ While this condemnation is quite forceful, included in it are seeds which could be used to secure support for this proposition.

What needs to be recalled is that the condemnation was directed at a very specific proportional distribution process. Under that process it was the SSO that established an aggregate royalty cap, which through numerical proportionality would apportion that aggregate royalty to the respective IP holders. In the articles both elements of this proposal are rejected. The royalty cap is rejected because it is anticipated that the SSO members who would have a vested interest in the lowest possible royalty rates, (vertically integrated firms, manufacturing only entities and technology distributors) would ignore the desires of the few "pure innovators" who only source of income would be royalties. This they argue would be nothing more than a form of price fixing which would transfer wealth from "pure innovators" to those engaged in the manufacturing process.¹¹⁶¹ The rejection of the numerical proportionality being based upon; an objection to inherent requirement that all patent would be valued equally when not all patent have equal value, an expectation that such a system would incentive the filing of marginal

¹¹⁵⁵ See Chapter 3 Rebutting Patent Holdup and Royalty Stacking

¹¹⁵⁶ See for e.g.: Geradin, *Reverse Hold-Up*, 'Instead of being over-rewarded, as holdup theorist claim, essential patent holders would be under rewarded.' at 8; Heiden and Petit, *The Royalty Gap*, 'a systemic effect can be envisioned as a tax on R&D and patents that decreased the incentive of patent owners to invest into future technologies' at 51

¹¹⁵⁷ Geradin and Rato, *A Dissonant View*, at 8

¹¹⁵⁸ Golden, *Patent Trolls and Remedies*, at 2123

¹¹⁵⁹ Epstein et al, *Replacing Private Coordination* at 3

¹¹⁶⁰ Geradin and Rato, *A Dissonant View*, *Cumulative Royalty Caps and Allocative Mechanisms*, at 33, and Geradin, *Reverse Hold-Up*, *Proposals to reinterpret the notion of FRAND as a tool to constrain the ability of patent holders to monetize their innovations*, at 17

¹¹⁶¹ Geradin and Rato, *A Dissonant View*, at 35

patents, and require the impossible task of actually determining how many patent are read on to a technical product.¹¹⁶²

Given that an application of the correlated doctrine would require the establishment of an aggregate royalty rate and a proportional distribution of that aggregate, it would appear that the very same criticism could be levelled at it. However, most of this criticism can be avoid by changing the methodology for determining the aggregate royalty rate and the proportionality calculations. Indeed, as this process has yet to be implemented, it would make sense that the methodology follows more traditional practices in IP disputes, as opposed to operating on untested theoretical conjectures. This at least is the approach that was anticipated would be used under an application of the correlated rights doctrine

Like under historical patent dispute; it was anticipated that after an infringement was found the patent owner (plaintiff) would make a claim for damages based upon; what they believed was the appropriate aggregate patent level for the relevant technology, and what they felt their proportional share of that aggregate ought to be. These claims would have to be backed up by evidence and expert testimony. With respect to the aggregate patent level this would initially have to be based upon on economic analysis of the product demand curve drawn for information on current sales of the product. After a few cases in a relevant technology were heard, the aggregate rates adjudicated in those case could also be used as evidence. With respect to the proportionate share being claimed, while this would likely commence with some form of numerical proportionality, there is no reason why it would not be possible for the owner to claim a higher proportional share based upon evidence of the properties providing higher value that than an average patent which is read on to the technology.

Also, like historical patent dispute; the infringer (defendant) would have the burden of proving that the plaintiff's aggregated royalty and proportional share claims were false. This would be done with their own set of evidence and expert witnesses. In the case of the aggregate royalty this would involve disputing the economic analysis provided by the plaintiff or point to aggregated royalty rates adjudicated in other cases involving the same set of intellectual properties. When it came to proportionality it would be up to them to prove that the plaintiff's properties were not as valuable as claimed. Once the parties had presented their cases it would be up to the judge or jury to decide whose case was the most compelling.

If this methodology was use it would obviously blunt much of the criticism included made by Geradin and Rato. The SSO would not have the authority to dictate aggregate rates which were below what "pure innovators" could prove in the courts. There would be the possibility of valuing different patents according to the own unique characteristics. And there would be little incentive to file marginal patents as they would drive down the perceived value of the owners more valuable properties. The only criticism that would remain would be question about the impossibility of doing the calculations. It could be argued that it is a criticism which could be made in almost every case involving a patent dispute. This because in every patent case which involves damages, there will exist a requirement to make subjective decision as to the appropriate level of damages to be awarded. While this subjective decision making would be more demanding in the first few cases involving a correlated technological product, after an aggregate rate and promotional claims have been adjudicated a few times, further cases will

¹¹⁶² Geradin, Reverse Hold-Up, at 19

tend towards more empirical analysis than subjective analysis. That empirical analysis being based upon finding in previous case involving the same technology.

12.3 Summary of Patent Holdout Literature and Correlated Rights

The first conclusion which can be drawn from this chapter is that many notable scholars take a contrarian view to the prevailing views on patent holdup and patent holdout. Most suggesting that finding solutions to patent holdup, does not means that the traditional patent rights afforded to innovators should be abandoned. The second conclusion being that that legal thinking on the problems patent holdout and holdup continues to evolve as scholars continue to develop greater insights these problems. From a correlated rights' prospective the most important conclusion which can be drawn is that; many of their arguments are similar to or consistent with those presented in this thesis. And even those that are not can be interpreted in a manner which would provide indirect support for the application of the correlated rights doctrine.

13. Advantages and Disadvantage of applying the Correlated Rights Doctrine

The primary objective of this thesis has been to focus attention on how the current implementation of intellectual property law has facilitated the unjust appropriation of rewards from intellectual property owners and to provide a compelling argument in favour of using an application of correlated intellectual property right to solve the problems of patent holdup and patent holdout. While preventing these appropriations will certainly benefit those IP owners whose rewards are currently being appropriated, any argument in favour of an application of correlated intellectual property rights would be incomplete if it did not include a consideration of the spillover effect that an application of the correlated rights doctrine would have on all parties which would be affected by its application. As such this chapter will provide a broader assessment of the advantages and disadvantages of applying the doctrine.

13.1 Intellectual Property Owners and Users

As to as assessment of the advantages and disadvantages of applying the correlated rights doctrine to all intellectual property owners; it is indisputable that ensuring that the value of IP properties is properly considered and rewarded by the courts without unnecessarily protracted litigation, would provide a tremendous advantageous to intellectual property owners. Indeed, the only intellectual property owners which would be disadvantaged by its application would be those who are currently using the courts as a tool to force integrated technology manufacturers to pay excessive royalties to avoid injunctive actions. More particularly this benefit would accrue to all innovators regardless of their nationality, location, or employer. Whereas under the current application of IP law it is essentially only the fortunate few who are employed by successful technology companies (often located in the Silicon Valley) which are assured of being properly rewarded for their innovations. However, if the correlated rights doctrine is applied all innovators regardless of location or employer would have a better chance of being properly compensated. This opportunity being open not only to innovators located elsewhere in the US, but to innovators located and working for entities in Europe, Japan, Israel, China and or indeed any country in the world. All of this would mean that innovators would not have to move locations to be properly compensated for their creative efforts and could remain in their local communities if they so desired.

For users of intellectual properties, the advantages and disadvantages are of a more mixed nature. The main advantage is that integrated technology manufacturers would no longer subject of excessive royalty demands based on threats of injunctive actions. In addition, there may also be an advantage in the fact that the competitive environment for technological products would become more even; as large entities would no longer derive a competitive advantage by being able to lower licensing cost through legal attrition. If this happens it would mean that innovation would be reinforced as the primary method of competition, which is beneficial to integrated entities who are developing their intellectual property and would tend to disadvantage entities which are totally reliant on common external intellectual property. A further advantage to entities which develop and contribute intellectual property essential to the manufacturing of an integrated technological product, is that they too will receive a proportional level of compensation when their properties are used by their competitors. In fact, in instances

where their proportional intellectual property contribution to the technological product is greater than their market share of the technological product, those entities should be financially better off under an application of the correlated rights doctrine than they are under the current application of intellectual property law. An example of how this might happen can be found in the field of smartphones. In 2016 it was estimated that Apple held a 12.9% market share of smartphone market,¹¹⁶³ while there is every possibility that they have contributed in excess of the 20% of the IP incorporated into a smartphone. As such; if their competitors properly compensated them for the use of their technology, and even though they would need to pay proper compensation for the 80% of external intellectual property that they use, they would still be better off.¹¹⁶⁴

Another advantage for users of applying the correlated rights doctrine is that they will no longer feel obliged to feign ignorance of the intellectual properties incorporated in their products for fear of being declared a wilful infringer. This is advantageous not only because it allows users to avoid increased damages, but because it liberates their ability to closely examine new patented innovations to see if they can build upon them. The final advantage for users of integrated intellectual property is that it would clarify the obligations they have with respect to paying for the use of intellectual property, which should reduce the level of litigation required to conclude licensing agreements. Although it must be admitted that this advantage is somewhat nullified by the disadvantage that they would no longer be able to drive down licensing costs by engaging in excessive litigation.

This increase in licensing cost is clearly the biggest disadvantage which intellectual property users will face with respect to an application of the correlated rights doctrine. This because users will no longer be able to rely on legal attrition and/or their or appeals to their national competition authorities to drive down licensing rate. Returning to the smartphone industry, it is estimated that in 2016 the licensing cost for smartphone technology represented 3.3% of operating cost,¹¹⁶⁵ which would be equivalent to about 2.5 % of the industries sales revenue. This would appear extremely low for an industry which almost entirely reliant upon newly created innovations which are covered by enforceable patents. To visualise how low this rate is, just imagine what the licensing rates would be if a single entity owned every patent related to smartphones and was negotiating a license with a manufacturer which own which had no intellectual property. To be sure the first number to be considered would not be 2.5% of sales, but more likely 20% to 25% of sales. Certainly, in fields where there is only one owner of a highly desirable technological product like in the pharmaceutical industry even these aggregate rates would be considered at the lower end of the range of possible rates. This conclusion being supported by the price differential reported between patented and generic pharmaceutical products.¹¹⁶⁶ As mentioned in the previous paragraph higher royalties do not create a disadvantage for integrated manufacturers that contribute sufficient essential intellectual

¹¹⁶³ Gartner, Smartphone Market Report Press Release, Egham, UK, August 19, 2016
<http://www.gartner.com/newsroom/id/3415117>

¹¹⁶⁴ Doing calculations based on Apple's 2015 Annual report and assuming that Apple's share of the common IP used in a smartphone is 20%; an aggregated royalty rate of 10% could increase Apple's profit by \$1.8 billion; alternatively, an aggregate royalty rate of 20% would increase its profit by \$ 4.3 billion this despite the fact it would also require them to pay \$6.1 and \$15.3 billion more for the use of external intellectual properties.

¹¹⁶⁵ Galetovic, Harber and Zaretski, *Mobile Phone Licensing Royalties*, (2016)

¹¹⁶⁶ Medical Daily, *Name Brand Drugs Vs Generic Drugs: Does Price Reflect Effectiveness Rate of Drugs?* Aug 16, 2013; "There are two of the same exact versions of every product on the shelf — except one costs 85 percent less than the one next to it."

property to integrated technological product, as such it is only those manufacturers which do not contribute their proportionate share of the intellectual property to the integrated product which will be disadvantaged. However, as it can be argued that not paying for, or at least not paying a reasonable price for the use of intellectual property provides those entities with an unfair competitive advantage, this disadvantage can be regarded as merely a correction of market failure which created an unfair advantage, rather than a real disadvantage. In addition to the disadvantage of paying higher royalties, another disadvantage is that all users will likely have to pay those royalties to a larger number of intellectual property owners, which may increase transaction costs. This disadvantage is however mitigated by the fact as the correlated rights doctrine requires establishing aggregated royalty rates for an industry, and once those rates are established this would greatly simplify the negotiation process and may bring down transaction costs.

13.2 Legal Systems

With respect to the advantages and disadvantages to the courts of applying the correlated rights doctrine, any assessment must take into consideration the current state of intellectual property litigation. Frequently this litigation currently involves excessively long and expensive procedures which produce unpredictable results which too often are inequitable. The length and expense of current legal procedures can be directly attributed to the expansion of legal attrition from a defensive strategy against patent holdup, to an offensive strategy designed to lower royalty claims. It can also be attributed to the fact that integrated intellectual property cases represent an unresolved quandary which is not capable of being resolved by applying the same historical legal practices which were used for resolving standalone intellectual property cases. This lack of an appropriate doctrine for integrated intellectual property cases means that it will necessarily take judges longer to decide, as they must struggle with reaching an equitable decision without clear guidance. This lack of an appropriate doctrine is also the reason why decisions are so unpredictable and often inequitable. While some judges may choose to follow the precedents, which applied the absolutist doctrine in standalone intellectual properties disputes, others recognise that integrated intellectual property disputes are sufficiently different that the doctrine does not apply and should not be applied as it will result in inequitable decision. Clearly this decision as to whether to apply the absolutist doctrine will result in different outcomes as without a governing doctrine or precedent judges will tend to make decision bases on their own personal ideological beliefs regardless of equity. Given this current situation the advantage or disadvantage to the courts of applying the correlated rights doctrine should really be focused on whether its application will assist in making intellectual property trials shorter, less expensive, more predictable and more equitable.

Examining these issues in a reverse order, because an application of the correlated rights doctrine dictates that intellectual property owners should be rewarded according to the value of their contribution to the integrated technological product, it must inherently result in equitable decisions. By the same logic if the value of the contribution becomes the determining factor, this should also decrease the unpredictability of the decisions. Both of which would make its application advantageous to the courts. As to the length and expense of litigation, assuming the equitable results produced by applying the doctrine remove the tolerance for legal attrition, this will make trials shorter and less expensive. However, because the correlative rights doctrine

also necessitates an assessment of both, the aggregate value of the integrated innovations included in the technological product, and the proportional value attributed to the disputed intellectual property, these assessments will require greater levels of analysis which will tend to increase both the initial time and cost of the litigation. That said after the analysis is done for the first case of a technological product, that same analysis can be used for subsequent cases, which will once again reduce both the time and expense of the procedure. Indeed, to the extent that after a few cases involving specific technological products are heard, it is entirely possible that the evidence would become so standardised, it should be possible to eliminate the need for extra time and expense. While shorter cases would certainly be advantageous to the workload of the court system, the fact that the correlated rights doctrine would encourage more intellectual property owners to seek appropriate compensation for their properties could increase the number of suits brought to court. The prospect of more cases coming to the court should however not be considered to be a disadvantage, because it is simply an indication of a recovering faith in the judicial system to deal with intellectual property cases in a quick, inexpensive and equitable manner.

When considering the advantages and disadvantages of application of the correlated intellectual property rights for competition authorities, the biggest advantage would be that it would free up resources that are currently utilized in respect to patent holdup. This because the application of the doctrine would effectively resolve this problem, making the need to use competition law to solve this problem redundant. This should not in any way be viewed as a disadvantage, assuming competition law is viewed as a backstop to prevent anti-competitive behaviour which is not otherwise proscribed in other bodies of law. Indeed, the fact that the correlated rights can be extracted from the application of competition law in IP cases, would indicate that the use of this backstop has served its purpose by providing a structure for ensuring IP law is less susceptible to abuse.

The only way that it could be viewed as disadvantageous is if competition law is viewed as means for protecting local manufacturers or ensuring discounted consumer prices for technological products. These roles would naturally be curtailed by an application of the correlated rights doctrine. However, given that these roles are contradictory to international trading agreements and constitutional protected property rights, this disadvantage would appear to be moot.

13.3 Consumers

With respect to the effect that an application of the correlated rights doctrine would have on consumers. It is self-evident that if owners of intellectual property are to be properly compensated for their contributions to a technological product, this will raise the cost of manufacturing that product. Whether all those increased costs will be passed on to consumers is not so self-evident, but it is certainly likely that it will result in higher product prices. Obviously higher prices would be a disadvantage to consumers. However, if those lower prices are the result of underpaying intellectual property owners, this is not really a benefit but an abuse. Indeed, it is not that dissimilar to preventing consumers from purchasing low cost products which have been stolen. Given this disadvantage can be justified and there does not appear to be other disadvantages to consumers, consumers' acceptance of the doctrine should rely on the advantages. First there is the advantage of increased innovation which is inherent in properly

rewarding innovation. Second there is the increases in innovation which should occur from freeing users from feigning ignorance about the intellectual properties incorporated in their products, and which allow them to more easily improve or build on those properties. Finally, there is the advantage of knowing that only reputable entities, (i.e.: ones that are willing to properly pay for the intellectual properties they use) will be allowed access to the markets and this should mean that they can rely on their product guarantees.

13.4 Societies

Finally, there is the effects of applying the correlated rights doctrine will have on societies at large. What needs to be understood in this context is that there were not one, but rather two huge changes which have shaped societies over the last three decades. Although from an intellectual property prospective the focus has been on the information revolution and the development of an information economy, the change which has had a far greater consequence for societies has been the globalization of trade and commerce. The most significant consequence of this globalization there has been a huge shift in manufacturing activities from high wage to low wage countries.¹¹⁶⁷ While this shift has allowed manufacturers to increase profitability, it has created a number of economic problems for high wage societies, the most significant of which are; higher unemployment, increased trade deficits, increased budget deficits, greater income inequality and anaemic GDP growth rates.¹¹⁶⁸ Although globalization is most likely irreversible, this does not mean that the problems experienced as a result of it cannot be resolved. Indeed, just as during the 18th century when farm labourers were forced off the land during the agricultural revolution and the industrial revolution provided a solution, the problems of globalization may well be solved by the information revolution. That this has not happened to date can be directly attributed to the under valuation of intellectual property in the information economy. Assuming that an application of the correlated rights doctrine will resolve this undervaluation, provided below is an explanation of how properly compensating inventors for their innovation will help to address each of the economic problems faced by high wage societies.

As far as increased unemployment is concerned clearly providing inventors with proper compensation does not mean that manufacturing jobs will not continue to be outsourced in low cost countries. However, it will mean that more employees can be hired by innovators, which will have both a direct effect on employment rates and an indirect effect on employment rates as those employees purchase services in their local community.

With respect to trade deficits, given that the bulk of the intellectual property is owned by entities in high wage societies, an increase in royalty payments to them from low wage manufacturers, should automatically reduce trade deficits. This is particularly true because the

¹¹⁶⁷U.S. Department of Commerce records indicate that from 1980 to 2015 manufacturing's percentage share of U.S. Gross Domestic Product (GDP) shrank from 20.5 % to 12.1%. http://www.bea.gov/industry/gdpbyind_data.htm

¹¹⁶⁸Higher unemployment occurs when domestic manufacturing operations close. Trade deficits increase when product previously made in a domestic economy now need to be imported from another country. Budget deficits increase because companies are better able to keep their profits offshore therefore avoiding taxes, and manufacturing employees who previously paid taxes now have to claim unemployment benefits. Greater income inequality develops as the owners of the now more profitable manufacturing companies become wealthier and their former employees are forced to take lower paying service industry jobs or live off unemployment benefits. GDP growth rates drop as any growth in the economy has to make up for reductions in the domestic manufacturing industry.

bulk of the trade deficits between low wage and high wage societies are primarily the result of difference between exports and imports of manufactured goods. Carrying this presumption to its natural conclusion this would suggest that any general increase in royalty rates would reduce global trade deficits by the same amount assuming prices remain constant. However even if prices were to rise because of increased royalty cost, this also will decrease the trade deficits as it will lower demand for the imported manufactured goods.

Budget deficits will be reduced by the application of the correlated rights doctrine in several ways. The first and most obvious way is that because intellectual property owners will have more income they will pay more taxes. Second there is the multiplier effect that will occur as those same intellectual property owners spend their taxed income in the domestic economy, providing those who they purchase goods and services from with a higher taxable income. Finally, there is a presumption that smaller intellectual property owners are less likely to keep that income in offshore accounts to avoid taxes, something which is all too common among many modern multinational technological entities.

These advantages to society cannot be over emphasised, as without the application of the correlated rights doctrine, many societies will continue to lose money on their investments in education. While education in science technology engineering and math clearly has its own value, if societies are not able to capitalize on that efforts of those that they help to educate, that education itself becomes under threat.

To the extent that an application of the correlated rights requires a more equitable distribution of the rewards from innovation, it is self-evident that this wider distribution should reduce levels of income inequality. This conclusion is based not just on common sense but on historical evidence. It should be recalled that during the early stages of the industrial revolution factory workers were severely mistreated and underpaid, with most of the profits from those factories going to the factory owners. This created income inequality of Dickensian proportion. Indeed, that inequality to a large extent persisted until governments took actions to protect the rights of factory workers, after the Great Recession of the 1930's. Just as it was the protection of worker's rights that created the middle class, so to the protection of inventor's rights should help to revitalise today's middle class and reduce income inequality.

In terms of assisting economic growth while it is clear that the initial increase in royalty payments will boost the economic growth of the societies where those IP owners live, this is not the only effect that applying the correlated doctrine will have the economic growth of a society. Societies should also feel a longer-term effect as properly rewarded innovation should create a multiplier effect when those increased royalties are spent in the local economy. It is through this multiplier effect that countries can also be assured that they are also properly rewarded for educating those innovators. Such effects would not in any way be limited to high wage societies, as innovators living in low wages societies would have an even greater opportunity to improve their financial positions. This possibility of improving long term economic growth in every global economy plainly means that applying the correlated rights doctrine represents a universal advantage.

In summary what this assessment of the advantages and disadvantage of applying the correlated rights doctrine indicates is that;

- Innovators can choose to live where ever they want and still be properly compensated for the value of creativity they have developed through years of hard work and dedication in developing their skills.
- Integrated technology manufacturer will no longer be forced to pay unreasonable royalties but will lose the competitive advantage provided by having unlimited legal resources which allow them to avoid properly compensating intellectual property owners through legal attrition.
- The Courts will be able to reduce the time and expense of hearing cases while at the same time facilitating more predictable and equitable outcomes.
- Consumers will likely face higher prices for integrated technology products, which will be offset by increases in innovation and the elimination of disreputable technological manufacturers.
- Societies at large will benefit from; higher employment, decreased trade deficits, decreased budget deficits, lower income inequality and stronger GDP growth rates.

All of which provides a compelling argument for changing the legislation so that applying the correlated rights doctrine is a specific mandatory requirement when adjudicating cases involving integrated intellectual properties. A position that this author would certainly support, even though the doctrine can be applied without any legislative changes

14.A Theoretical Property Continuum

This research on the history of property law was undertaken in an effort to understand how absolute property rights had become the foundation for intellectual property law. Its objective was to show that absolute property rights are merely one form of property rights which can be shown to have existed over the course of human history, which could be used to rebut the assertion the absolute intellectual property rights were an unassailable and essential component of intellectual property law. When doing this research on these various forms of property rights, it became evident that there was a fascinating continuum which could be constructed which illustrated the evolution of property rights over time. A continuum which in many ways constitutes a path towards universal correlated property rights. Because showing property rights on a continuum, enhanced the argument against absolute intellectual property rights, and supports the application of correlated intellectual property rights it was constructed and included as part of the thesis.

To build this property continuum it was essential to first identify the various changes in property and property rights that have occurred in various societies. The next challenge was to find a coherent way of grouping them into an actual identifiable phases or stages that reflect trend in the evolution of property and property rights. The phases representing the seismic shifts in the nature of property rights and the stages being the more nuanced changes within those shifts. While there can be no correct way of grouping these shifts and changes, it is hoped that the method chosen by the author provides a coherent and credible explanation of the ongoing evolution in property law.

It should be noted for the most part these property phases and stages described in this evolutionary analysis represented a common form of property ownership but were not an exclusive form of property ownership during the respective phases and stages. The fact of the matter is that many of these phases and stages overlapped both time and territory because like any evolutionary process there will always competing aspects in any evolutionary advances. Despite this caveat it is the author's belief that there is a definitive trend in the phases and stages of property ownership that can be presented as an evolutionary path that tends to explain most forms of property ownership encountered over the span of human history.

In defining the phases, the approach which has been adopted is to use as broad definition as possible in order to minimize the complications. To this end three broad phases have been identified as being in existence in some form or another during the history of almost every society. These phases correspond to a difference in the distribution of property throughout the evolutionary development phases of most societies. The three identified phases are; a common phase, a concentrated phase, and a universal phase. For the purposes of providing a contextual understanding of the more detailed discussion of each phase and their respective stage it is perhaps useful to first provide a summary of each phase in this introduction.

The common phase is identified and defined as a phase in a social development where there was common ownership of property, with only a limited measure of ambiguous individual

property rights. While common property is frequently regarded as an invention of the communist regimes of the 19th century, the truth is that this phase was and is the oldest of the property phases. In fact, it was the dominant property phase in early human societies and lasted longer than any other phase in the evolution of property rights. Whether this phase commenced 3.0 million years ago with the evolution of Homo species, or 200 thousand years ago with the evolution of Homo sapiens, the duration of this phase is extraordinarily long and by far surpasses in duration any other property phase.¹¹⁶⁹ Viewed in this light the communist manifestation of this phase was nothing more than a brief rebellion against the evolutionary path of property rights and an attempted to return to an earlier developmental phase. It should be noted that some legal scholars represent this early development phase a period when natural law was the dominate legal structure. However as will be shown this representation is little more than sophistry designed to justify their subsequent property phases.

The next broad phase identified and defined is the concentrated phase. This phase is defined as concentrated because it is the phase where property and property rights were held and controlled by small centralized bodies within a society. At its height this might have meant that all property was considered to be owned by one individual leader, but most stages of this phase usually involved the ownership of property being distributed between an individual leader and a select group of loyal supports. The formalization process involved not only the development of the rights of property owners, but also the outset of the development of relationship between property owners themselves and the relationship between property owners and non-property owners.

The final phase identified and defined is the universal phase. This phase can be defined as the expansion of ownership and property rights to the entire population of a society. Inherent in the expansion of universal property rights was the complications related to the increase in the number of relationships between property owners. Clearly when a society moves from a concentrated property ownership structure to universal ownership structure this massive increase in owners, must inherently generate an exponential increase in the potential for conflict between property owners with respect to their individual property rights. As such the critical stages of development in this phase primarily revolved around the different understands of definition of property rights, with respect to property rights of others.

Included in this paper will be a discussion of each phase which will begin with an explanation of how and why the phases are divided into stages. This will be followed by a more detailed examination of each stage. The examination of the stages will begin with discussion of the nature and justification of property circumstance including specific examples of the stages in history. It will then move on to a more detail examination of the relevant legal conditions of the stage. Where possible this will also include representative examples of the legal manifestation of the legal condition by providing information on specific legal cases that reflect the legal condition. Central to this legal discussion will be an examination of the legal treatment of conflicting property rights. The concluding analysis of the individual stages will be an explanation of the broad consequence of the property stage in terms of how it affected history and why it ended.

¹¹⁶⁹ Given the common environment of all the homo species, it is entirely possible that the social skills that allowed for shared common property created the advantage that enabled Homo Sapiens to continue along the evolutionary path, sparing us from the fate of extinction which was to befall our ancient cousins. However, because so little is known about what causes the extinction of other homo species this argument is perhaps too contentious to be utilized other than in a footnote.

Obviously, the information on, and the relevance of the various phases and stages to our modern understanding of property and property rights increases dramatically as one progresses through the evolutionary spectrum. As such the extent of the examination of various phases will reflect the relevance of each. The common phase being the most distant and least relevant will be examined mainly for the purposes of setting the narrative for the subsequent stages. The concentrated phase will be more thoroughly examined because aspects of it pertaining to ownership rights are still relevant. The universal phase will be the most closely examined as is not only relevant but reflects the reality of property circumstances in most modern societies.

14.1 THE COMMON PROPERTY PHASE

A mentioned in the introduction to the property continuum, the common property phase relates to the property phase where there existed common ownership of property with perhaps some measure of ambiguous individual property rights. This lack of individual property rights should however not be presumed to imply that the land was not being utilised, in certain cases there was extensive use of the land. Nor does it mean that there were not divisions and use of property resources that were regulated by some sort of governing body during the period. Studies have shown that even in the most rudimentary of societies there were rules governing both the use of property and the distribution of bounty resulting from the property. As such rather than being regarded as some form of unregulated free for all, the common property phase should instead be regarded as a phase in early society where the land was considered to be a common heritage of all the people which reflected their shared existence as a group.

The first stage of the common property phase can be called the communal property stage. It can be called the communal stage because it does not exhibit a clearly defined hieratically structure but rather an arbitrary arrangement whereby members of the community are involved in the decision and no one having any more formal authority than anyone else. In this communal stage, decisions with respect to the use of property are taken jointly, every member of the society is tasked with some form of work and the bounty from that work is shared in the community. The tasks being performed by each respective member being determined by ability or tradition. If one was to attempt to place this stage in an anthropological context it could generally be depict as the spanning the period usually referred to as the stone age which commenced at the beginning of human history and ended at the beginning of the bronze age. As different societies exited the stone age at different times it is impossible to put a specific end date on this period, but it is safe to say that for most societies this period probably ended sometime between 6500 BC and 1700 BC which is the time that much of humanity which lived in North Africa, Asia and Europe transitioned into the bronze age. The duration of this period therefore representing between 1.9 million and 194 thousand years of human history.¹¹⁷⁰

What inevitably followed any communal stage was something that could be called a tribal stage. In a tribal stage the relatively flat hierarchical structure of the communal stage is replace by a more formalized hierarchical structure that has a clearer defined leadership functions and subordinate responsibilities. This change in structure does not however substantially change the common nature of ownership. Property is still held by the community at large, and the bounty the that it provides is still shared by the community. However, the decision-making process is

¹¹⁷⁰ The calculation of its duration depending on whether the period is thought to have commenced with the evolution of Homo habilis or Homo sapiens, 1.9 million years ago or 200 thousand years ago respectively.

now more concentrated in addition to the functional roles of the individual members of society are becoming more specialized. This specialization being evident not only in the leadership function but also in the more mundane work engaged in by the community. Certain individuals having been delegated by the leadership as the ones responsible for certain tasks, necessary for the survive of the community. There is no definitive archaeological period for stage although it could be thought to transcends both the bronze age, and the early iron age in Europe. In America it can be argued that this stage persisted until the colonial period and the loss of native American property to the European settlers.

It is worth emphasising that this definition of common property should not be consider equivalent to the definition of common property often referred to under the tragedy of the commons. This was not free for all, where individual members of society could do whatever they wanted with the common property. Rather in both stages it was the communal property that was managed by the community for the benefit of the entire community.

14.1.1 Communal Property Stage

Because communal property is the first stage of evolutionary property spectrum it is easily overlooked in any discussion about property. This despite the fact that communal property probably represents the longest stage in the process. The central characteristics of the stage were and are relatively small group of people joining together for the mutual benefit of each other. The justification for this stage was nothing less the survival of the group.

In the earliest societies common property could be described as a common hunting ground. Depending on the size of the population and the productivity of nature, these hunting areas could last for a few years or millennium. In situations where populations grew too quickly, or nature was less abundant the communities would simply move on to the next hunting area once animal resources were depleted. This search for food, being one of the primary explanations for the migration of the human species during the earliest stages of human society.

In other situations where population remained relatively stable and nature was abundant the communities settled down into a relatively stationary pattern of existence. As these stationary communities experimented with animal husbandry and horticulture it was the whole society, not just individual members of the community that took responsible for these activities. For although individual members were undoubtedly delegated certain roles depending on their ability or tradition it was common for the whole group to participate in the building of the enclosures and cultivation of fields essential to success of the activity. Given common participation in and common dependence on the animal husbandry and farming activities it is hardly surprising that that property was considered to be a common resource.

It should be noted that this stationary existence based upon common development and dependence was usually limited to small areas and small communities. When the communities grew too big to be able to sustain themselves on the property that they inhabited, the communities would split, usually along a family basis, with one part of the community moving to adjacent property and setting up a new community. This is yet another primary explanation for the migration of the human species.

Clearly for as long as there was uninhabited property available this process of communal expansion could continue without serious confrontation between the communities. However, when uninhabited land was not readily available, it is easy to imagine conflicts inside and

between communities for the precious resources. As such, whereas inside these communities the property would have been considered communal, this was not the case with respect to external relationships. As time progressed it became almost inevitable that the exclusive utilisation of property by these independent and isolated communities would be interrupted by the encroachment of external communities. In these circumstances, because the very survival of the community was dependent on the access to the bounty of the property that they inhabited, there would inevitably be fights over the property between the communities. If the existing stationary community won the fights, they could maintain their communal ownership of their property and the interloper would be forced to seek property elsewhere. If they lost the fights, the existing community would be forced to move on to other property.

While examples of communal property can be found throughout the stone age because there are little written records for this stage evidence of it must be extrapolated from archaeological records. Of those archaeological records a good example can be found on the west coast of Orkney in Scotland at a place called Skara Brae¹¹⁷¹.

Skara Brae is a large stone-built settlement dating back to 3180 to 2500 BC which makes it Europe's most complete Neolithic village.¹¹⁷² This village consisted of ten dwellings clustered around a central common space. The village itself is built into the surrounding landscape of mounds with each individual dwelling consisting of stone slabs stacked together but sunk into the ground to provide shelter from Orkney's harsh winter climate. For the most part the dwellings abut one another, with common stone walls separating one dwelling from another. Each dwelling incorporated a large square room of the about 40 square meters containing a hearth which would have been used for heating and cooking. The dwellings also contain a number of stone-built pieces of furniture, including cupboards, dressers, seats, and storage boxes. A sophisticated drainage system was even incorporated into the village's design, one that included a primitive form of toilet in each dwelling. Seven of the houses have similar furniture, with the beds and dresser in the same places in each house. Given the size of the rooms and number of homes, it appears likely that between fifty to sixty people lived in Skara Brae at any given time. In the common area is not only a larger hearth, but stone tanks that were thought to be used to keep the small fish bait they used for fishing. In addition to fishing it was thought that the people who inhabited Skara Brae were pastoralists, who primarily raised cattle and sheep, although excavations in 1972 unearthed seed grains in several of the dwellings suggesting that barley was also being cultivated. The total size of the actual village is little more than the size of a large putting green, but as no other village have been found in the area its pastures and fields may have been extensive.

Given the similarities between the dwelling, density of their construction and the common infrastructure, (the fish-bait tanks and plumbing), it appears reasonable to assume that this was a closely-knit community that worked together and was highly dependent on each other for their existence. Whilst there were clearly individual dwellings, because they are so close and so similar, it is likely that even these were built on a communal basis. Given these archaeological records it does not take a great leap of faith to assume that communal property was the norm in Skara Brae. Indeed, to assume anything else would be counter intuitive. If instead of a

¹¹⁷¹ D. V. Clarke, *The Neolithic village at Skara Brae, Orkney, 1972-73 excavations. An interim report.*, Dept. of the Environment, (Edinburgh, H.M. Stationery Off., 1976)

¹¹⁷² Neolithic is considered to be the last stage of the stone age, or the new stone age.

communal society, it was just an aggregation of individual inhabitants there would be greater diversity in the dwellings and less common infrastructure.

Radiocarbon results obtained from samples collected during various excavations indicates that occupation of Skara Brae began about 3180 BC and continued for about six hundred years. It is believed that Skara Brae was abandoned around 2500 BC, which was the time when the climate in the Orkney was thought to have changed into much wetter and colder conditions. After it was abandoned, it was eventually covered with sand and peat and remained hidden for four thousand years, until a particularly severe winter storm exposed the site in 1850 AD.

Because there are no written records covering this stage it is impossible to definitively say what the relevant legal condition of property was during the stage. One can only make assumptions based on the archaeological evidence that is available. That archaeological evidence clearly points to a primitive property stage which consisted of communal property developed and maintained by small communities for the benefit to the entire community. This communal assessment of primitive property is of course diametrically opposed to the conception of primitive property that has been advocated by later scholars to justify subsequent property stages. That is to say that the idea that primitive property was dominated by individual ownership resulting from individual discovery or individual labour is simply not credible.

So, what are the consequences for history of this of this property stage? It certainly did not result in property being viewed as an individual private asset to be used by an individual in whatever way the individual saw fit, nor did it result in property being viewed as a common asset to be shared by all humanity. Rather the main and most important consequence of this communal property stage was that it resulted in the creation of separate communal property that was under the control and use of a specific community. This separation of property into distinct units, is undoubtedly the most significant consequence of this property stage. For if at the dawn of mankind, the whole world belonged to all mankind, at the end of the communal stage the whole of the known world was divided between the multitude of individual communities that made up mankind.

What separates this earliest phase from the following phase is not a change in these community's communal rights to the inhabited property, but rather a change in the hierarchy of the communal society and the individual community member's right to the communal property. For it appears, whenever a community grew beyond a certain size they tended to replace the communal decision-making process, with a leadership-based decision-making process. The key factors driving this evolution appeared to be efficiency and survival consideration. Both of which are classic evolutionary factors, in every field of evolution. This next stage being defined here as the tribal stage.

14.1.2 Tribal Property Stage

The point where communal property ends, and tribal property begins, is the point in time in a society when they create a formal hierarchical structure with specialized functions for leadership. Whereas: in the communal property stage each member of a community has a relatively equal status and decisions with respect to property are primarily determined on a group basis; in the tribal property stage those same decisions are made by the leadership structure. That leadership structure could take many forms, the most common of which would be some sort of tribal council. For the most part these tribal councils would be made up of a

select group of societies members, that were considered by the society to have the best knowledge about what was good for the society. Not the least of these being the religious leaders that were to emerge as the community leaders because they could explain the uncertain aspects of life as some form of supernatural event.

In addition to having specialized leadership functions it was generally the case that that other functions also became more structured and formalized. This was only natural as delegating responsibilities for certain activities to those members of a society that were more capable of those activities, provided the greatest advantage to the society as a whole. Thus, societies would be divided into hunter, gatherers, farmers, fisherman, tool makers, cooks, priests and warriors, as an example. Obviously, this division of labour was a gradual process and initially there would be a significant overlap in functions. For example, the hunters may well have also been the first and best warriors and the gathers, may well have also been first farmers. But over time as the tribe grew; it is clear that the need for and the ability to specialize would become more and more evident in the society. Eventually at some point in time those specialized functions would become the accepted norm for the society.

When specialization became the accepted norm of the society, it is not unreasonable to assume that the tribal councils would recognise this reality and delegate stewardship of the tribal property, to those that had the ability to derive the greatest benefit from the land. If this stewardship remained in place for extended generations of families, it is reasonable the assume that those families began to believe that they had certain usage rights with respect to the land. Which is to suggest that while the property may still be considered to be communal, they came to believe that they had a particular right to hunt, forage, farm or fish in their specifically designated tribal property. This would be the first steps on the way towards private property. Another obvious consequence of this stewardship would be that new members of society would be excluded from the already utilized property and would have to practice their activities on new property. However, this is not to say the development of new property would be a strictly an individual effort. As with communal property, this development would often require a communal effort. Once again, the community would get together to clear the fields or build the enclosures necessary to utilize the new property. This new property being added to the communal property, with the usage being delegated to the newest members of the community. In the best cases, as land usage expanded and the specialization intensified, the communities would experience an ever-increasing food production surplus.

Like the communal property stage, determining the relevant legal condition of property for tribal societies often can be done by interpreting archaeological records. However, these archaeological records can be supplemented by both ancient and modern written records. The ancient written records being persevered because they were literally written in stone and the modern written record being provided by tribal societies continued to exist into the modern era.

Without going into too many details it is reasonable to state that the archaeological records almost universally indicate that tribal property was viewed as having a significant communal element. The conclusive evidence of this are the remains of religious monuments that the ancient tribal societies created. Remains, that could have only been built by the combined effort of the entire society. One of the best examples of which is the great stone circle at Stonehenge. While origin and purpose of Stonehenge remain shrouded in mystery, there is no denying that it is a colossal structure, that required the combined efforts of a large community to move and erect the stones.

With respect to ancient written legal text, the oldest that can be found are those that belong to the ancient societies that were a little bit further along the property continuum. A prime example of this is the Sumerian Code of Ur-Nammu written in 2100-2050 BC which included articles defining and quantifying private property rights. At the time the code was written it is speculated that over 70% of the land was considered private property with less than 30% being communal property. In the Sumerian Code can be found the following articles;

“30. If a man stealthily cultivates the field of another man and he raises a complaint, this is however to be rejected, and this man will lose his expenses.

31. If a man flooded the field of a man with water, he shall measure out three *kur* of barley per *iku* of field.

32. If a man had let an arable field to another man for cultivation, but he did not cultivate it, turning it into wasteland, he shall measure out three *kur* of barley per *iku* of field.”¹¹⁷³

There are three significant and interesting aspect about this ancient law. First the articles are applicable to “*a man*” which one can take to mean not just “*a*” man but “*any*” man. This is significant in that it clearly indicates an equality of legal standing before the law. Further there is a clear concern about damage to property that would render it unproductive. This is significant because it indicates a concern about efficiency, but also codifies a respect for third party property rights. Finally, there is a fixed compensation for damage to land, which appears to signify an attempt to regulate the value of awards from property damage, if not property value itself. This is significant because the regulation of the value of property, reflects a legal condition which corresponds to a communal interest in property as opposed to an absolute individual interest in property. This equality, efficiency, and communal interest, representing a natural evolution from the tribal property stage to a universal private property phase.

It is possible that evidence of this prosperity and harmony inspired the ancient philosophers to imagine ideal societies constructed around this frame work. Perhaps the most well know of which was Plato; who in his most famous work “The Republic” outlined an imaginary society called “Kallipolis” that bears a remarkable similarity to an ideal tribal society.¹¹⁷⁴

For more modern written records it is possible to find similar sentiments. One example of which would be the legal text belonging to the Haida Tribe of British Columbia which represents the very essence of a modern tribe that is still living on their ancestral homelands. The Haida are tribe of the indigenous people who inhabited and still inhabit the Queen Charlotte islands located on the northwest coast of Canada. For thousands of years the remoteness of the islands protected them from the encroachment of other societies. This does not mean that the Haida were a totally isolated people, in fact the opposite is true. There is abundant evidence to suggest that the Haida had a long history of trading with their neighbouring tribes and it is almost inevitable that over the course of history that there would have been conflicts between those tribes and the Haida. However, none of the incursions by other tribes on their tribal property appears to have been successful, nor does it appear that the Haida had any interest in expanding

¹¹⁷³ Samuel Noah Kramer, *The Sumerians: Their History, Culture and Character*. (Chicago, University of Chicago Press; New edition 1971)

¹¹⁷⁴ Plato, *The Republic, Chapter 5*, original script form 300 BC, (Penguin Books Ltd; 2nd edition Nov. 1974)

into areas inhabited by their neighbours. As such the Haida represent an ideal example of the tribal property stage and lifestyle.

The fact that the Haida represent a tribal property stage and not a communal property stage is evident in the fact that their society includes a hierarchical structure. The Haida like so many indigenous North American groups had and have, what is commonly referred to as tribal councils that were and are the central decision-making bodies for the people. These councils usually were and are made up of the older members of the tribe. The decisions tribal council govern all aspect of tribal life, including both the use of tribal property and the allocation of the of the bounty form those properties. Much of the bounty being consumed in community feast and elaborate ceremonies.

In addition to the established customs and traditions of the Haida, their written records on the legal condition of tribal property verify this archaeological assessment. A very clear and concrete enunciation of this communal commitment can be found in the existing written constitution of modern Haida Nation. Included in the Constitution is the following:

“ARTICLE 3 RIGHTS AND FREEDOMS

A3.S1 Collective Haida Rights:

The Haida Nation collectively holds Hereditary and Aboriginal Title and Rights to Haida Territories.

A3.S2 Individual Rights:

Every Haida Citizen has a right of access to all Haida Gwaii resources for cultural reasons, and for food, or commerce consistent with the Laws of Nature, as reflected in the Laws of the Haida Nation.”¹¹⁷⁵

Clearly this constitutional construct portrays a society that is deeply committed to communal property while also recognising the rights of its individual tribal members. To the extent that communal ownership incorporating individual usage rights, resulted in an efficient utilization of resources and this provided sufficient bounty to be distributed amongst the tribal members, it is hardly surprising that the tribal stage could survive for thousands of years in societies that were not prone to external disturbances.

However, there is no disguising the evolutionary trend which was changing legal condition of property from common property towards private property. Even without external disturbances it appears evident that private property would become the norm in societies. That the general evolutionary property trend would be driven by the efficiency of allowing those who were more skilled at specific activities to specialize in those activities. It was not just that those that were good at farming and herding should focus on farming and herding, but also that for a society to develop and prosper new skills needed to be learned. Skills like tool making, minerals mining, metallurgy, trading and public administration were but a few of the additional activities that could improve the condition of a society. If each member of a society was allowed to make the most of on his own particular skill, it is clear that society, as an aggregate, would be better off. In fact, if the society could adopt a fair exchange mechanism, there is no reason to believe that all individual members would not be better off as well. Further while the farmers and herders

¹¹⁷⁵ *Constitution of the Haida Nation*, (Council of the Haida Nation, 2002)

might inevitably become the owners of the fields, the craftsmen and other tradesmen might just as well inevitably become the owners of their particular manufacturing operations.

Another subset of society that developed in this stage were the religious orders. The evolution of the priest or religious leaders can be attributed their ability to predict the occurrence of certain event that were essential to the well-being of societies. It should be remembered that events; as commonplace as the movement of the sun and the seasonal changes in weather, were mysterious in the ancient societies. This ability to be able to anticipate events made them indispensable to the tribal societies. From a positive prospective, priest can be considered as the earliest scientists who used their thinking skills, to acquire the knowledge which allowed them to anticipate events critical to their societies. However, there was a very negative side to these early religious activities, which made them the opposite of scientists. That negative side was the way in which priests abused that knowledge for their own personal gain and to the detriment of their society. They usually did this by keeping their knowledge on how to predict events secret and pretending that they had some ability to influence events. As a result of this deception; these early priests become venerated members of society, who could demand disproportionate rewards for themselves. While these disproportionate rewards and extravagant religious ceremonies were a major contributing factor to the demise of tribal property, it was perhaps their jingoistic promotion of wars with neighbouring societies that had the most negative impact on tribal societies.

All that is required to understand this conclusion is to understand how war and the rise of a warrior class in the tribal societies resulted in the evolution of a new property phase. Inherent in the process of increased functional specialization and an increasing population is the supposition that there existed in close proximity to the tribal base, sufficient uninhabited land available to meet the demands of the growing society. If this was the case; simply; clearing a new field, hunting more distant forests, or fishing longer stretches of water, were sufficient to meet those needs. Indeed, when this was the case, tribal societies could extend the tribal property stage for centuries, if not millennia. However, when growing tribes ran out of uninhabited property, they could only acquire additional property by taking it from their neighbouring tribes.

This would almost inevitably put the tribes in conflict with each other; a conflict that would usually result in the expulsion or subrogation of the weaker tribe. There are two aspects to this conflict scenario that worked against evolution of universal property rights from common property rights. The first is the fact that the conflict in and of itself was direct challenge to universal property rights. The property rights of the neighbouring tribes being totally disregarded by the invader. But it was not the actual conflict itself that was the most important factor that eliminated tribal property and the evolution to universal property phase. The most important factor was the development of a specialized warrior class within the society.

History shows that once tribal societies began to come into conflict with each other, the more successful tribes set up specialized warrior class to both protect their lives and property. Naturally these same warriors could be used not only to defend the tribe, but also to acquire property from other tribes. It is not unreasonable to speculate that it was the forced appropriation of other tribe's property that was the catalyst for the concentrated property phase which was to follow. Consider a group of warriors, after being battered and bruised on

the field of battle, sitting together and discussing the conflict and the property captured from the defeated enemy. It takes little imagination to construct a scenario where these warriors would come to believe two ideas which would drive the concentrated property phase. First; that the defeat of their enemies in battle extinguished any rights that the conquered may have had towards their property, if not requiring them to be subservient to the victorious. Second; that that their risks and efforts as warriors entitled them to a greater share of the spoils of war, then the non-warriors in the society.

This division in status between those that were worthy of owning property and those that were unworthy represented the founding legal principle of the concentrated property phase. The concentrated property phase representing a two thousand plus year violent detour from the peaceful evolutionary path, between common property rights and universal property rights.

14.2 THE CONCENTRATED PROPERTY PHASE

The concentrated property phase is herein defined as the property phase where property came to be owned by an elite segment of a society, as opposed to the communal ownership that had prevailed during the common phase. In the conclusion of the of the previous section simple necessity was identified as the initial driving force behind this evolutionary phase. This contention being based on the premise that in order for tribes to develop and prosper they were forced to acquire property from neighbouring tribes through conflict; and that this conflict resulted in a warrior class who felt they were more entitled to ownership of the conquered property, than those that had not engaged in the battle. Whilst this can explain the initial stage of the concentrated phase it cannot explain the most concentrated property stages of the concentrated property phase. For although survival may have been the driving force in the initial stage, latter stages appeared have less to do with survival of the tribe and more to do with individual egotism and greed.

Perhaps the best description and explanation of this behaviour was something that the famous political philosopher Rousseau¹¹⁷⁶ called "*Amour-propre*". For Rousseau amour-proper represents psychological characteristics which are described as pride, vanity, or conceit in English. It is that thing which moves every individual to value "him (or herself) more than any other, which inspires all of the evils in society ... the desire to be recognized and esteemed by others.". The manner in which Rousseau speculates that *amour-propre* began to arise and develop fits very well with the description of earlier communal and tribal societies. He suggests that as soon as people began to gather around a hut or a tree and to look at one another, as soon as we became conscious of the gaze of another, and it is from that gaze, from the look or gaze of another, that the passion of vanity was born. He says:

'Each one, began to look at the others and to want to be looked at himself and public esteem had a value. The one who sang or danced the best, the handsomest, the strongest,

¹¹⁷⁶ Jean-Jacques Rousseau, 1700th Century Philosopher

the most adroit or the most eloquent became the most highly regarded and this was the first step toward inequality.'¹¹⁷⁷

While this idea of a desire for respect is clearly visible in man, the problem is the personal characteristics that were first used as a proxy for respect were subjective and difficult to measure. As such a better proxy for respect was required and there could be no better proxy than the acquisition and accumulation of property. Obviously, the ability to quantify property holdings made respect measurements easier; as a simple correlation between the extent of property held and the respect due appeared logical. The greater the property held the greater the respect due, particularly if the exploitation of the property could be delegated to subordinates that would also be dependent on the owner for their livelihood.

That is not to say that amour-propre is strictly a negative characteristic, in certain ways it could be a positive characteristic. In its most positive form the desire for respect can result in people striving to work harder or do things better in order to earn the respect of their peers. In this positive form; the evolution of property ownership would be based on merit or the ability to maximize the benefits to society from their particular activity. For example, farmers that could generate the higher yield from their fields, or craftsman that could more efficiently manufacture the equipment necessary to cultivate the fields, could both use the profits from their activities to purchase and accumulate property. In this way their property ownership is derived from beneficial services to their society; which usually would create little in the way of adverse effects for their society or humanity as a whole. This form of property accumulation representing a positive contribution to society could quite justifiably be viewed as an appropriate proxy for respect.

The trouble is that once property began being used as proxy for respect, it could and would replace respect as the objective. To the extent that acquisition and accumulation of property in and of itself becomes the objective, the necessity of having as much property as possible can drive people to extremes in behaviour to accumulate property regardless of the net positive or negative effect to society or humanity. This very concern was voiced by Rousseau in the very first sentences of his second discourse, which reads as follows;

'The first man who, having enclosed a piece of ground, bethought himself of saying *This is mine*, and found people simple enough to believe him, was the real founder of civil society. From how many crimes, wars, and murders, from how many horrors and misfortunes might not any one have saved mankind, by pulling up the stakes, or filling up the ditch, and crying to his fellows: Beware of listening to this imposter; you are undone if you once forget that the fruits of the earth belong to us all, and the earth itself to nobody.'¹¹⁷⁸

However, to be fair to Rousseau, it should be acknowledged he lived in a time before the universal phase of property truly began and even in the grip of the concentrated property phase he realised that:

¹¹⁷⁷ Jean-Jacques Rousseau, Donald A. Cress (Translator), *Discours sur l'origine et les fondements de l'inégalité parmi les hommes* originally published 1754, *Discourse on the Origin of Inequality*, (translated version Hackett Publishing, 13 Mar 1992) 49

¹¹⁷⁸ *Id.* 47

'But by that point things had changed so drastically that there was no turning back, for this idea of property'¹¹⁷⁹.

So even though he saw the harm that could result from an obsessive desire to accumulate property, he was not so foolish to think that it was possible to turn back the evolutionary clock to the common property phase.

As mentioned earlier the concentrated property stage can be viewed as a two-thousand-year violent detour in the peaceful evolution from the common property phase to the universal property phase. A "detour" because it is clear from historical records that there was a direct path from the common property phase to a universal property phase and there was movement along that path before it was interrupted by the concentrated property phase. A "violent detour" because efforts to first centralize and then to decentralize property and property rights, would cause conflict in the world for over twenty centuries. In these conflicts millions would die and vast swaths of a society's population were literally and figuratively enslaved for the benefit of a few elite rulers. Such was the lure of accumulating property that nothing moral or immoral was impervious to the desire. While some men became tyrants, others that wanted nothing more than to live their lives in peace were forced into abject poverty and servitude.

In terms of stages involved in the concentrated phase it could be tempting to differentiate only between the trend when property ownership was being concentrated and when the concentrated property was being dispersed. However, this would require far too great a degree of generalizations for the legitimacy of either stage to be certified. Instead it is necessary to divide the concentrated phase into four somewhat distinct stages which can be defined as follows. First there was the warlord stage, where warlords were accumulating property on the basis of conquest and plunder. This accumulation of property set the scene for the royal stage, when the warlords sought to secure their accumulated property through the introduction of a legal framework that legitimised their holdings on the basis of a divine providence. What followed was the nobility property stage, which was a stage that commenced the eventual decline in concentrated property, as it secured the property rights of nobles against the whim of the monarchy. The final stage of the centralised property phase being the aristocratic stage, where property and property rights were further dispersed to the larger group of elites within a society, but still kept out of the hands of the majority of the population.

14.2.1 Warlord Property Stage

The end of the tribal stage can be defined as occurring at the time when tribes began to acquire property from neighbouring tribes through the use of force. At first these conflicts may have been driven by a simple lack of sufficiently productive uninhabited land, which meant that if tribes wanted to continue to develop and expand they had no choice but to fight over property with their neighbours. However, over time it appears that some tribes became so specialized in warfare, that taking property by warfare became an accepted development method for the society.

In those conflicts over property, it was no surprise that the tribe which was more prepared for the conflict that usually prevailed. Further it is self-evident that tribes that had specialised functions dedicated to fighting conflicts, would be the best prepared for battle. Given this

¹¹⁷⁹ *Id.* 50

dynamic, the creation of a warrior class in a tribal society, became a matter of self-preservation. If tribes did not have a dedicated warrior class, they were susceptible to defeat by tribes that had warrior class. Defeat could mean not only loss of property, but also the loss of liberty, as it was common for the victors to turn the vanquished into slaves or servants. If societies had warrior class, they could not only ward off incursion by other tribes, but they could also initiate conflict with other tribes in an effort to secure more property for their tribe. And so, the stage for warlord property was set.

As was discussed in the introduction it doesn't require much imagination to come up with a scenario whereby a group of warriors after successfully defeating a neighbouring tribe agree amongst themselves to keep the newly acquired property for themselves, instead of turning the property over to the communal ownership. Particularly if the tribe already had some form of individual usage rights for the communal property, a usage right that had disassociated the warriors from the existing communal property. Would this not be a just reward, for their efforts in battle? Were they any less deserving than the farmers and fisherman who had a limited form of hereditary claim to communal property? Besides even if the community disagreed, what could they do? These after all were the warrior class, the segment of society specifically responsible for defending and fighting battles for their society.

One critical aspect of the warlord property that should not be overlooked, is that the population of the defeated tribe could be made to provide the labour required to work the property. A servitude which became so common that it began to be endorsed by leading philosophers like Aristotle;

'For that some should rule and others be ruled is a thing not only necessary, but expedient; from the hour of their birth, some are marked out for subjection, others for rule.'¹¹⁸⁰

This subservient workforce meant that the warriors were not reliant on the voluntary efforts of other members of their society to secure to the bounty of the newly acquired property. Not only did this reduce the potential for internal tribal conflict over the ownership and development of the captured property, it also allowed for unlimited property accumulation on the part of the warriors. Property now being defined not only by physical land but also the slave under their control. Further this subservient or slave labour workforce almost certainly contribute to the warrior's sense of superiority with respect to other tribal members.

Over time the feeling of superiority would inevitably lead to authoritarian tendencies in the warrior classes. If one accepts the assumption that the warriors began to feel superior to everyone who was not a warrior, it is easy to imagine that they would quite easily begin to resent the authority of inferior non-warriors on the tribal councils. While this resentment might not result in any action during periods of peace, it would not be surprising that during periods of warfare, the tribal council would see the replacement of non-warrior council members with warriors. Certainly, the warriors would believe that only the warriors would be able to anticipate and plan for the war. Indeed, in a time of war, most of societies tend to recognise the necessity of having the best warriors in leadership positions. However, once the councils became dominated by a warrior class, it is unlikely that they would return the leadership positions to the

¹¹⁸⁰ ARISTOTLE, *Politics* 330 BC, (Oxford, OUP 1998)

non-warriors after the war had been successfully concluded. For the successful conclusion of the war would only reinforce their sense of superiority.

If having the warrior class take control of the tribal councils was not enough, the other dynamic that would lead to authoritarian tendencies would be the structure of the actual warrior class. In matters of war it has long been understood that military success is dependent upon a strict hierarchical command and control structure. To the extent that a warrior hierarchical structure has been ingrained in the warrior class, it is not unreasonable to assume that the same hierarchical structure would be evident in the operation of the warrior based tribal councils. This hierarchical structure once again reinforcing the feeling of superiority held by the warrior leaders. So, given these dynamics it was only natural that the warrior leaders or warlords would ultimately wind up as authoritarian leaders of their respective societies, with their respective share of the property acquired through conflict being disproportionate to even the other warriors.

This then is the essence of the warlord property stage. Property being acquired through force and being unevenly distributed to the warrior classes. The inequality of property ownership reinforcing perceptions of superiority and sustaining the inequitable distribution. The warlords of the warrior class receiving both the greatest property and being regarded as the most important members of society.

To the extent that this was what happened, the justification for property in this stage can be thought to have changed from one of efficiency and equity, to one of superior force. Externally the tribe with the strongest warrior class, would seize property from those tribes with a weaker warrior class. Internally the warrior class itself would accumulate disproportionate amounts of seized property and even appropriate property from other tribal members by force. Much of seized property becoming owned directly by the warrior leaders or warlord.

There are no shortages of examples of warlord property. The most visible examples of this type of property, being the foundations of many of the major empires that proliferate through the history of mankind. While it would be convenient for modern man to believe that this type of forceful appropriation is a relic of the past this, is simply not the case. While there is little doubt that this was the justification that was used by ruthless warlords thousands of years ago, similar justification and practices are evident in many of the modern dictatorships we see around us today. However, for the purposes of illustrating this type of property, the Spartan property regime, has been selected, because it is an almost perfect embodiment of this type of property stage.

The Spartan society came to prominence during the first Messenian War which lasted from 743 BC to 724 BC. This war was a direct result of Spartan overpopulation. In an effort to expand their territory the Spartan army went to war with the neighbouring Messenians. After two decades of battle, the Spartans eventually defeated the Messenians and the Messenian people became enslaved by the Spartans. This conquest and enslavement of the local population, was to be the hallmark of Spartan society for the next 600 years. The society itself came to end in 146 BC, when Greece was conquered by the Roman General Lucius Mummius. The principle reason for their demise being a very real shortage of Spartans, as citizenship was inherited by blood, a shortage which resulted from too many of Spartans were being killed in battle.

Historical records show that the Spartans were and probably still are the most specialised warrior class society that ever existed. This was a society, where the entire Spartan population was dedicated to the preparation for war. This training commenced at birth and continued for

through most of their adult life. Spartan men were encouraged to marry at age twenty but could not live with their families until they left their active military service at age thirty, and even then, they remained in the active reserve until age sixty. Since all young Spartan men were full-time soldiers, they were not available to carry out manual labour. As such the more mundane activities of farming and manufacturing were performed by subservient populations who they had conquered in battles. The subservient population be divided into the Perioiki, who were non-citizens, and the Helots, who were actual state-owned slaves. For the most part the Perioiki were the craftsmen and the Helots the labourers.

Sparta was ruled by two hereditary kings and the duties of the kings were primarily religious, judicial, and militaristic. The judicial functions of the kings being restricted to cases dealing with heiresses, adoptions and the public roads. Civil and criminal cases were decided by a group of officials known as the ephors, as well as a council of elders. The council consisted of 28 elders over the age of 60, elected for life and usually part of the royal households, and the two kings. High state policy decisions were discussed by this council who could then propose action alternatives to the *Damos*, the collective body of Spartan citizenry, who would vote on the alternatives.

While Sparta would appear to represent an extreme of warrior class, their property regime only became centralised in the later centuries of the society. Initially there were not extreme variation in property ownership between the actual Spartans themselves, because upon release from military duties warriors were given a similar sized piece of land that was cultivated and run by the helots. It could even be suggested that the allotted property was more communal than private, this because much of the bounty generated from granted property was utilised to satisfy the needs military and there were no inheritance rights.

However, over time three things changed this relatively equal distribution. First, some property was simply more productive, and this provided greater wealth to those that held the most productive property. Second, sometime during the fourth century inheritance rights were granted to the Spartans allowing land accumulation within families. And finally, large Persian grants of gold and silver to military leaders and the ruling families at the end of the Peloponnesian War, allowed those same elites to purchase even greater and more disproportionate amount of property.¹¹⁸¹

This disproportional distribution of property amongst Spartan citizens being significantly magnified in the entire Spartan empire, because the Spartans themselves constituted an ever decline percentage of the total population. Whereas there were some 10,000 Citizens at the beginning of the 5th century BC, by Aristotle's day (384–322 BC) they had decrease to less than 1,000. In the same time frame, it is estimated that the population of subservient Perioiki and Helots went from 100,000 to 150,000. This means that the Spartan citizens represented less than one percent to the total population in their final days. This concentration of conquered property ownership in the leadership of an elite warrior class representing the very model of warlord property.

While the warlord property regimes of various societies sometimes lasted for centuries, all of them eventually came to an end. And they came to an end for one of two reasons. The first and most obvious reason was that they were simply conquered by a militarily superior regime. It needs to be remembered that the vast majority of warlord property were not grand empires

¹¹⁸¹ Alexander Flux, *Social Conflicts in Ancient Greek*, (Israel, Magnes Press New edition 1984) p 55,

but instead rather small isolated societies. These small societies were naturally susceptible to defeat by larger or better equipped forces. To the extent that the invading forces justified their property rights on the basis of superior force the previous owners had no reason to protest, as this was ultimately their own justification for their property holdings. Even in cases where it was a grand empire that was defeated by a stronger military force the same logic would apply.

Of course, for the non-property owning population of any given society it mattered little who was the owner of the property, what matter to them was how they were treated by the owners. If the new owners treated them better than the old owners, why should they fight to support the rights of their old masters. This attitude is the main thing that explains the dramatic expansion of the early Mongol empire. As the Mongols moved in to the middle east the majority of the opponents that they faced were smaller societies, which had entrenched warlord property regimes. To the extent that the Mongols could convince the subservient population that they would be better off under Mongol leadership, the only forces they would have to fight would be those of the ruling elite. And while the ruling elite represented the warrior class of the society, the difficult was that without the support of the general population, there was no way that they could effectively resist the advance of the Mongol armies. And so it went, with one small society after another surrendered or defeated by the Mongols, who for the most part did improve the conditions of the subservient classes.

The other major way in which warlord property ended was through the evolution of warlord property into royal property. This evolution was not as dramatic a conversion as the conversion from tribal property into warlord property, for quite often it would not even require a change in property ownership. Given that a change in ownership was not required for this evolution, it may appear the that the royal property stage could be considered to be redundant. However, there was one significant difference between the two stages which validates its separation and that difference was the justification for the property ownership. As discussed above, the justification for warlord property was brute force, however with royal property, the justification changed to one of divine providence. That is not to say that brute force was no longer the underlying methodology of appropriating and securing property, but rather that the brute force justification could be veiled in the cloak of God's will. To the extent that brute force was the initial underlying justification, divine providence could be considered an additional justification, which as time progressed often become the primary justification.

The reason for the evolution from a warlord property to royal property is easy to understand. If the brute force is the principle justification for property ownership, property ownership is only protected only so long there is sufficient brute force available to secure it. There are two aspects to this contention that would be troubling to any warlord. First, as mentioned above, their property ownership is vulnerable to superior external forces, but second and perhaps of greater concern would be the vulnerability of their property holdings to superior internal forces. Warlords after all are only human, and inevitably the passage of time will diminish their own personal strength and with it their ability of defend their property rights. Should this happen, and if their heirs not be able to defend the families' property with the same vigour as the warlord, under a warlord property regime their property will be lost to another stronger leader in their own community. It was most likely this internal vulnerability, which was the main reason for the evolution towards royal property. For unlike brute force which is ultimately a very objective justification, divine providence is a subjective justification that can be manipulated in

favour a warlord and his heirs, in a manner that allows for their continued ownership claim regardless of their physical capacity.

14.2.2 Royal Property Stage

'For if there is no justice, what are kingdoms except large robber bands? For it was elegant and truthful reply that was made to Alexander the Great by a certain pirate he had captured. For when the king asked the fellow, why it was that he should torment the sea, he replied with defiant outspokenness: "For the same reason that you torment the world! I do it with a little ship, and so am called a pirate. You do it with a large fleet, and so you are called a king"¹¹⁸²

The royal property stage represents the most highly concentrated ownership structure of the concentrated property phase. This stage was almost always a direct evolution from a warlord property stage, as it usually resulted from warlords seeking to justify their ownership of relatively vast amounts property acquired as a result of brute force, by something other than brute force. The primary justification for property ownership in this stage being divine right.

While often the actual property ownership did not alter during the evolution between the warlord and royal stages, the exploitation of divine justification for property holdings had major benefits for former warlords. First and foremost, if the warriors, as a class, accepted this justification it greatly reduced the warlord's internal vulnerability to property claims from his fellow warriors. Clearly for a up and coming warrior, challenging a current warlord would be become much more difficult, if the other warriors accepted the current warlord's divine rights to rule. No longer would it be sufficient to demonstrate superior fighting ability or military prowess. To become leader, the pretentious warrior would also have to demonstrate superior religious standing. This of course was a much more subjective measure of leadership and could not be realised if the religious authorities were unwilling to change their allegiances.

In addition to strengthening the allegiance of the warrior class, this practice of claiming divine rights also had tremendous benefits to the warlords if the overall population could be convinced to accept these claims. While the general population may be indifferent to which warlord subjugated them, and owned the property on which they laboured, this all changed if a religious component could be invoked. At the very least, the free population might be more reluctant to assist external forces in replacing their divinely chosen ruler. In the best case, they could now be relied upon to fiercely defend them. Depending on how strongly the claims of divine providence were held, the same support might even be provided by the subrogated population. Of course, for any claims of divine leadership to have societal legitimacy they must first be accepted by the religious leadership.

In order to ensure acceptance or at least compliance of the religious leaderships, the military leaders had three options. First, they could obtain the religious leaders support, by providing substantial support for their religious order. This would usually be the case if the warlord truly believed in the religion. Alternatively, they could coerce their support through threat to their order. And if all else failed, they could simply declare themselves leaders of the religious order. One, or all of these practices, have been used by all royal property regimes.

¹¹⁸² Augustine, *Civitas Dei* 4.4 (extracts); Contained in M. M. Austin, *The Hellenistic World from Alexander to the Roman Conquest: A Selection of Ancient Sources in Translation* (Cambridge University Press, 6 Jul 2006) 23

Acceptance of the divine leadership rights by the warrior class however was another matter. Whenever the warrior class accepted the divine right of a leader this would generally be interwoven with their and more particularly their leader's success in battle. If a military leader was successful in a conflict with their enemies, this was taken as a sign that the leader did indeed have divine support. If a military leader was unsuccessful in battle, the opposite belief was fostered. The instances in history where either of these conclusions were drawn are numerous, as almost every side in every conflict has believed that their respective deity was supporting them, and their victory was dependent on that support.

However, for the general population, acceptance of a divine leadership would more be more dependent on the overall acceptance of the religion, then the success of warlord in battle. Although the overall acceptance of the religion, was obviously closely interlinked with the success of the wars endorsed by the religious leaders. Such was nature of Royal claims of divinity, if the Royals are successful they tend to get the support of the religious leaders, which in turn encouraged the support of their population, which in turn tended to ensure their continued success. However even if the general population did not accept or adopt the religion, it was enough that they would provide it with sufficient deference to ensure that claims of divine providence were respected. The key to this respect being the ability of the royalty to provide the security from external threats, essential to create a productive society.

It should be noted that for the royal leaders there was another major advantage of claiming divine rights that was lacking in other property regimes. This advantage was the ability to claim absolute dominion over the property under their control. Clearly if the royal leaders were able to establish themselves as god's representative on earth, or in the extreme actual god's themselves, this gave them an authority comparable to that the gods. Such omnipotent authority gave them much more flexibility to decide not only; on the use of their own property, but also on the use of their subject's property. While it has been argued that this authority could and was used for the good of the entire society, more often than not it was eventually used for wasteful aggrandizement of the royals themselves.

With the concentration of property in the hands of the royals and their absolute dominion over that property, the royal property regime was and is clearly the most centralised of all the property regimes. As such it represents the apex of not only the concentrated property phase, but also the antithesis of common or universal property. In no other property regime would so few control so much, nor so many control so little. Under this regime, the mere whim of a royal leader could change not only the use of a property, but even the ownership of the property.

Examples of royal property regimes are extremely diverse and can be found throughout history. One of the oldest and most sacred Royal regimes being the pharaohs in ancient Egypt, who were thought to be not representatives of the gods, but gods themselves. There were also the Ancient Greek and the Ancient Romans, both of which claimed some sort of divine justification for their leadership and property ownership. Alternatively, one could look at the Islamic regime that existed during the second Abbasid caliphate in 7th century in Bagdad. This Islamic regime being based on the leadership claims of blood relations with the Prophet Mohammad. Even today there are Royal families in the Middle East, Africa, and Asia which claim royal property as a result of some divine right.

However, all of these regimes pale in comparison the most ambitious Royal property regime that ever existed. That regime being the Spanish Monarchy of the 16th century, which claimed absolute dominion over nearly one third of the world, as a result of the exploration voyages of

Christopher Columbus in 1492. The King that claimed that ownership was King Fernando of Castile (Spain) who financed Columbus' voyages. The religious authority that confirmed the royal ownership was the Pope Alexander the VI, who in an Inter caetera bull drew a line down the Atlantic Ocean giving everything west of the line to the Castilian King. The story of this regime having such scope and significance, it is only fitting that it be used as the example of royal property in this stage.

Whilst the Spanish King's Royal ownership claims were made in 1492, there was a thousand years of precedent which lead to this particular claim of Royal property. The link between this claim and these precedents was that all of them were sanctioned, if not promoted, by the Catholic Church. A quick review of the major Royal property claims sanctioned by the Church, which facilitated this claim are as follows.

The Catholic intervention in property matters can be considered to have commenced with the founding of the Catholic Church in 33 BC when Peter became the first Pope. According to the bible he is commanded to spread the word to all non-believers.

"Thou art Peter, and on this rock I will build my church. I will give to thee the keys of the kingdom of heaven. And whatsoever thou shalt bind upon the earth it shall be bound in heaven.... Go ye therefore and teach all nations, baptizing them in the name of the Father, the Son and of the Holy Ghost."¹¹⁸³

This passage has been interpreted by the Catholic church to suggest that the church, not only has absolute dominion over all religious matters on the earth, but also has a say in the secular matters of all nations.

In 313 BC Emperor Constantine granted toleration to the Christians and eventually converted to Christianity. As such Emperor Constantine can be considered the first to establish a Christian based, royal property regime. However, this regime was rather short lived, as not long after the Roman empire crumbled, with Europe being torn into a multitude of smaller Kingdoms ruled by the barbarian Kings.

Then about 800 BC, the Frankish King Charlemagne, converted to Christianity and was declared Holy Roman Emperor by the Pope. Charlemagne's success induces other barbarian kings to become Christian, resulting in the majority of land in Europe falling under some form of Catholic church endorsed royal property regime.

In 1095 Pope Urban II declared that spreading Christianity is a duty of the Royalty and the first Crusades commenced shortly thereafter.¹¹⁸⁴ Under the guise of a holy war, the killing of infidels and taking of their property is accepted as a knight's profession. There were nine Crusades in total, the combination of which institutionalise the right of the European royalty, to take property from infidels as their divine right.

While the main focus of the Crusades was on the Holy Lands, there was a similar battle between Christians and Moslems happening on the Iberian Peninsula. Ever since the conquest of Andalucía by the Moors in 711 BC, there had been ongoing conflict between the two sides. In 1085, Alfonso VI of León and Castile captured Toledo, precipitating a gradual decline of the Moslem empire. By 1236, with the fall of Córdoba, the Emirate of Granada was the only

¹¹⁸³ Mathew 28:19

¹¹⁸⁴ Pope Urban II's speech at the Council of Clermont, (1095)

remaining Muslim-ruled territory on the peninsula.¹¹⁸⁵ After their conquest, Moorish property becomes part of the Christian based royal property regimes of the Portuguese and the Spanish.

Not long after the defeat of the Moors, Marco Polo returned from his travels in the Orient in 1295 and wrote about a land that had an abundance of wealth and splendour previously unknown to the Europe.¹¹⁸⁶ The desire to access these treasures, created a huge incentive for the Portuguese and Spanish Kings to begin voyages around the coast of Africa attempting to get to the Orient. Because of the length and expense of these expeditions the Portuguese wanted to secure a share of any profits from other European countries that use the routes. To this end, the Portuguese negotiated with the Pope for religious recognition of their rights.

The result was *Romanus Pontifex*, a papal bull written in 1455 by Pope Nicholas V to King Afonso V of Portugal, which was one of the first properly documented and specifically sanctioned royal property rights granted by the Catholic Church. The bull encouraged the King to propagate the Christian faith in the new countries, in return for dominion over all lands discovered or conquered. Along with encouraging the seizure of the lands of Saracens, pagans and other enemies of Christ, it repeated the earlier papal permission for the enslavement of such peoples. The bull's primary purpose was to forbid other Christian nations from infringing on the King of Portugal's rights to trade and colonisation in these regions.

From a royal property regime perspective, the most notable clause of the *Romanus Pontifex* is translated as follows:

'since we had formerly by other letters of ours granted among other things free and ample faculty to the aforesaid King Alfonso -- to invade, search out, capture, vanquish, and subdue all Saracens and pagans whatsoever, and other enemies of Christ wheresoever placed, and the kingdoms, dukedoms, principalities, dominions, possessions, and all movable and immovable goods whatsoever held and possessed by them and to reduce their persons to perpetual slavery, and to apply and appropriate to himself and his successors the kingdoms, dukedoms, counties, principalities, dominions, possessions, and goods, and to convert them to his and their use and profit -- by having secured the said faculty, the said *King Alfonso, or, by his authority, the aforesaid, justly and lawfully has acquired and possessed, and doth possess, these islands, lands, harbours, and seas, and they do of right belong and pertain to the said King Alfonso and his successors*, nor without special license from King Alfonso and his successors themselves has any other even of the faithful of Christ been entitled hitherto, nor is he by any means now entitled lawfully to meddle therewith.'*(italics added)*¹¹⁸⁷

While the papal bull sought to legitimise the property rights claimed by the Portuguese Monarchy as a result of their navel expeditions, this does not mean that all other Royalty accepted this theological status. The rationale for rejecting the Portuguese's claims generally revolved around the very practical consideration that the Portuguese did not have actual

¹¹⁸⁵ It is worth noting that the inability of the Moors to defend their property can be directly attributed to an internal conflict between the Moors and fanatical Islamic fighters from North Africa, which overthrew the more moderate leaders who had the support of the non-Muslim population.

¹¹⁸⁶ Marko Polo, *The Book of Marko Polo* (1295)

¹¹⁸⁷ Pope Nicholas V, *Romanus Pontifex*, (1455)

possession of the lands they claimed. For example, while the Portuguese claimed ownership of the Canary Islands, it was the French Nobles Bethencourt and La Salle in 1402, who physically conquer the Canary Islands in the name of the Castilian King, Henry III. This dispute in ownership was not resolved until it was settled by the Treaty of Alcáçovas in 1479.

Under the Treaty of Alcáçovas the Portuguese were granted free rein to continue their exploration along the African coast, in return for guaranteeing Castilian sovereignty in the Canaries. To the extent that this treaty between two nations divided up the world between themselves, it can be viewed as a significant legal landmark in the history of colonialism. For it was one of the first international documents formally outlining the principle that European Royalty are empowered to divide the rest of the world into "spheres of influence" and colonise the territories located within such spheres, regardless of the desires and without the consent of any indigenous peoples. This treaty is later ratified by the Papal bull *Aeterni Regis* issued by Pope Sixtus IV in 1491 which clearly places the Treaty into the Royal property agreement.

All this brings us to Columbus's discovery of America when both the Portuguese and the Spanish, claimed ownership of the newly discovered lands, after Columbus returned from his voyage in 1493. The Portuguese according to the Treaty of Alcáçovas, and the Spanish because they had financed Columbus's trip. Typical of a royal property dispute while the Portuguese and Spanish were engaged in bilateral negotiation to resolve the dispute, the Spanish secretly petitioned the new Spanish Pope, Alexander VI to support their claims. Not surprisingly this native of Valencia and a friend of the Spanish King, viewed the Spanish claims favourably and issued five new papal bulls in their favour. The most important of these bulls was the *Inter Caetera Divinai* dated the 4 May 1493¹¹⁸⁸. This papal bull essentially drew a line down the middle of the Atlantic and apportioning the discoveries west of the meridian to the Spanish and while apportioning discoveries east of the meridian to the Portuguese.¹¹⁸⁹

As with the Romanus Pontifex, these papal bulls justified the granting of these ownership right to the respective royalties as a means of spreading the Catholic religion. The relevant royal property clauses of *Inter Caetera Divinai* being:

'by the authority of Almighty God conferred upon us in blessed Peter and of the vicarship of Jesus Christ, which we hold on earth, do by tenor of these presents, should any of said islands have been found by your envoys and captains, give, grant, and assign to you and your heirs and successors, kings of Castile and Leon, forever, together with all their dominions, cities, camps, places, and villages, and all rights, jurisdictions, and appurtenances, all islands and mainlands found and to be found, discovered and to be discovered towards the west and south'¹¹⁹⁰

The observance of the papal bull being backed up with the threat of excommunication.

'Let no one, therefore, infringe, or with rash boldness contravene, this our recommendation, exhortation, requisition, gift, grant, assignment, constitution, deputation, decree, mandate, prohibition, and will. Should anyone presume to

¹¹⁸⁸Alexander VI, the *Inter Caetera Divinai* (1493).

¹¹⁸⁹ It is interesting to note, that because the yet to be discovered west coast of South America was to the east of the meridian, the Portuguese were able to claim ownership of it and this is how Brazil came under Portuguese control.

¹¹⁹⁰ Alexander VI, the *Inter Caetera Divinai*

attempt this, be it known to him that he will incur the wrath of Almighty God and of the blessed apostles Peter and Paul.¹¹⁹¹

In this papal bull is found the very essence of a royal property regime. First, there is the religious aspect that differentiates royal property from warlord property. Next, there is an extreme concentration of ownership in the hands of a few royals. And finally, there is the concept of absolute dominion which entitle the royals to do whatever they wish with their dominion. It should be mentioned that this particular example of royal property did not survive for long and the principle reasons for its demise, were representative of the demise of royal property in general.

The great irony is that the three elements that define royal property regimes: divine justification, highly concentrated ownership and absolute dominion; each contain in them the seed of evolutionary change that can bring an end to any royal property regime. All that is required is for any one of these three elements to be taken to an extreme, which would result in it becoming unacceptable for the cohesion of the society as a whole. Certainly, taking all three of the elements to an extreme almost always will result in a destruction of the regime.

Beginning with the first element, extreme belief in divine justification can result in evolutionary change for a number of reasons. In the first instance it can result in an undue reliance on deities for protection, which may result in an unpreparedness with respect to attacks. Alternatively, it may result in the wasting of essential resources in celebration of the deities or the royalty. Finally, it can result in the preoccupation with religious matters to the detriment of public administration. The most dramatic example of which would be the instances where the royalty become so consumed by religious matters that they ignore the very real material needs of their people.¹¹⁹²

With respect to both highly concentrated property ownership and absolute dominion, the reasons why extreme adherence to these elements caused evolutionary change is closely related. In both cases there is first and foremost competence issues. While it might be entirely possible for a royal leader to know enough about a small estate to make effective decisions as to use and therefore maintain absolute dominion, at some point this becomes impossible when property holdings are expanded. Even in cases where royalty has shown an outstanding management capacity and is able to manage an astonishing amount of property, there is nothing to suggest that such a capacity can be passed on to future generation of the royalty. In fact, the opposite is often true, as Royal property regimes often collapse simply because hereditary royals are not as capable as their predecessors.

Assuming that royal leader accepted their fallibility and decide not to exercise personal authority over their dominion this would necessary require delegating some of the decision-making authority to subordinates. This reliance on subordinates carries with it the most common cause for internal disruption of a royal property regimes. For once those subordinates realise that it was them and not the royalty that were creating the wealth, they tend to want to have a share of the rewards or even outright ownership the resources. It is this dilution in ownership of property that is by far the most prevalent and enduring source of the evolution from the royal

¹¹⁹¹ Id.

¹¹⁹² Jared Diamond, *Collapse: How Societies Choose to Fail or Survive*, (Viking Press 2006) Ch. 6: This is the explanation provided for the collapse of the civilization on the Easter Islands where every tree was felled in order to put up statues for the gods.

property regime. While over time this dilution would eventually result in universal property rights, in the first instance this dilution usually only went as far as the Monarch's loyal subordinates, which is why the next stage of the property rights continuum is named the Noble Property Stage.

Before going into the next stage of property evolution, this would appear to be the appropriate point to insert a piece of historical writings which was extremely critical of royal property regimes. Although this particular writing is from a period fairly far removed from the worst excesses of the royal property stage because it represents a such a clarion call for the abolition of the royal property stage it is provide here. The voice is that of John Adams, the 2nd President of the United States of America, who was also the lawyer which drafted the American Declaration of Independence. Ten years before the American revolution in his "Dissertation on Cannon and Feudal Law" ¹¹⁹³he wrote the following;

'But another event still more calamitous to human liberty, was a wicked confederacy between the two systems of tyranny (Canon "Catholic" Law and Feudal "Royal" Law) above described. It seems to have been even stipulated between them, that the temporal grandees should contribute everything in their power to maintain the ascendancy of the priesthood, and that the spiritual grandees in their turn, should employ their ascendancy over the consciences of the people, in impressing on their minds a blind, implicit obedience to civil magistracy.'¹¹⁹⁴

'Thus, as long as this confederacy lasted, and the people were held in ignorance, liberty, and with her, knowledge and virtue too, seem to have deserted the earth, and one age of darkness succeeded another, till God in his benign providence raised up the champions who began and conducted the Reformation.'¹¹⁹⁵

From this except and indeed the entire dissertation it is clear that Adams had nothing but contempt for the confederacy of religious and royal authority, which generated the royal property stage. It was the spread of this attitude that was to result in the evolution from the concentrated phase to the universal phase, relegating most concentrated property regimes to annals of history. However, this is getting ahead of the story, first we must examine the Noble and Aristocratic stages.¹¹⁹⁶

14.2.3 Noble Property Stage

The big difference between a royal property regime and a noble property regime is that the common practice of property ownership under noble regime results in noble ownership, rather

¹¹⁹³ John Adams, *Dissertation on Cannon and Feudal Law*, Boston Gazette, (1765)

¹¹⁹⁴ Id.

¹¹⁹⁵ Id.

¹¹⁹⁶ Some avid history readers might be surprised that an example of feudal property regime was not used under the royal property stage. And indeed, if the definition of a feudal property regime is that the king owns all the land under his dominion and grants fiefdoms or "seisen" to his vassals in return for their military and financial support, this would indeed be a clear example of royal property. However, because most of the feudal property regimes did not have a clear cut, absolute ownership by a monarch, the feudal property regime will be included in the Noble property stage, which is the next stage and represents the initial dilution of the property ownership after the Royal property stage. Indeed, it is this dilution of the property ownership that is used to define the end of a royal property regime.

than royal ownership. That is to say under a royal regime most of the property was owned by the royal families and managed with some sort of revenue sharing arrangement with loyal subordinates. Under the noble regime often that same property is owned by the same loyal subordinates, with the royalty receiving some sort of tribute, tax or profit share. Both these arrangements can be represented as a feudal system of government, with royal property representing the earliest form of feudalism and the noble property representing the later forms.

While this stage results from a modest evolution towards a more widely dispersed form of property ownership, it still maintains a highly concentrated ownership structure because ownership still rests with a tiny minority of the population. Further although ownership was marginally diluted, the concept of an owner's absolute dominion of their property remained intact. As such, for the general population the change meant very little. The only real difference between the two stages being that the nobility was no longer subject to the whim of the royalty, when it came to their property rights. Assuming that such differentiation is accepted, then clearly one of the first documents which led to the creation of Noble property would be the English Magna Carta of 1215.

Although the Magna Carta is frequently referred to as the first charter of individual rights, this is a romantic notion that significantly overstates its contents. Rather than being a charter of individual rights, the Magna Carta was for all intents and purposes simply a list of constraints on royal authority. The document itself resulting from grievances that the Barons of the England had against King John, who had either appropriated their property or interfered with their position in society. To understand the contents of the Magna Carta it is useful to first understand a little background to the document.

The Kingdom of King John was created by his father King Henry II, who ruled the Kingdom from 1154 to 1189. That Kingdom not only included all of England, but also much of western France. King Henry II had secured much of the French territory through marriage to Eleanor of Aquitaine and England territory through invasion in 1153. The Kingdom was governed based on a feudal system where the King granted fiefdoms to his vassals, in return for their oaths of fealty to him. The vassals (Earls and Barons) for the most part were able to manage their fiefdoms as they wished subject to providing taxes and military forces to the King according to their individual agreements with the King. The actual ownership of the fiefdoms while nominally belonging to the King, were in reality held by the barons, and only belonged to the King so long as he had the forces necessary to enforce his claims of ownership. In 1189 King Henry II was overthrown by his third son who was crowned King Richard (Richard the Lionheart). This coup being supported by the majority of Barons who were tired of King Henry's continual conflict with the Catholic Church. Two days after the coup, King Henry II died and within a year King Richard left to join the Third Crusade to Jerusalem. Left behind was Richard's younger brother John, who was to take care of the administration of the Kingdom.

While on his return from the crusades, King Richard was captured and ransomed. It was at that time, that John first tried to have himself proclaimed King. However, this did not happen, because the Queen paid the ransom so that King Richard could be released and return to England. Fortunately for John, after King Richard returned he not only forgave his brother but left him his Kingdom when he was subsequently killed attempting to recapture continental property. Property which ironically had been lost in revolts against the rule of John, while King Richard was out on crusade.

Unlike King Richard, who was respected and admired by the Barons, King John was considered to be untrustworthy. This feeling was mutual, as King John also considers the Barons to be untrustworthy. As a result of this mistrust King John ruled through fear and intimidation rather than seeking to maintain their loyalty through favours and promises as his father and brother had done. During the early part of his early reign; fiefdoms were appropriated from Barons, Barons were put in jail on a whim, and heirs to fiefdoms disappear without a trace. Unsurprisingly this mistreatment of the Barons led precisely to the disloyalty that King John feared. The epoch of this disloyalty cresting in 1214 when the French King Phillip Augustus attack the continental parts of King John's kingdom and his continental Barons abandoned him resulting in the lost his continental property. But this was not the final disloyalty, for after this defeat and in his weakened state; 24 of the remaining 45 English Barons, initiated a baronial rebellion which ended when King John was forced to sign the Magna Carta.

The original 1215 Magna Carta had no paragraphs, but historians have subsequently divided it into sixty-three paragraphs. Of these, the first fifty-nine; either seek redress for perceived misbehaviour on the part of the King, or place constraints on future behaviour. The last paragraphs deal with how any breaches of the commitments will be resolved. With respect to property there are clear contradictions between the various paragraphs which portends a shift in the property stage. For example, while in the second paragraph the reference is to the "land of the crown"¹¹⁹⁷, in another paragraph there is a clause that requires the king to seek permission of the owners.¹¹⁹⁸ No clearer indication of a change of status, from a royal to a Noble stage could be desired.

In addition to the ownership contradictions, there are also included in the document numerous clauses regarding the hereditary rights of the Barons and their families.¹¹⁹⁹ Such clauses clearly assume that possession is an inheritance, which cannot be disturbed by the King, and make the King's claims of ownership a royal delusion.

This rise of Noble power is also reinforced in the conflict resolution clauses. According to these clauses if any Baron should feel that the King has breached the constraints of the Magna Carta, they had the right to appeal to a council of 25 Barons for redress. The Baron's council would notify the King or his representative and if redress was not forthcoming within forty days, the Magna Carta authorised the "seizing our (the King's) castles, lands, possessions, or anything else saving only our own person and those of the queen and our children, until they have secured such redress as they have determined upon." Of note is the fact that the council of 25 Barons would be elected by majority vote of all the Barons and that decisions of the council would establish that "the verdict of the majority present shall have the same validity as a unanimous verdict of the whole twenty-five". What this meant was that the 20 Barons that supported the King, were effectively excluded from the council and that even if one or two should wind up on the council, their votes would be overridden by the majority.

Although King John signed the *Magna Carta*, there is ample evidence to show that he had no intention of complying with it and viewed the Charter simply as a tool for providing the breathing

¹¹⁹⁷ "If any earl, baron, or other person that holds lands directly of the Crown, for military service, shall die, and at his death his heir shall be of full age and owe a 'relief', the heir shall have his inheritance on payment of the ancient scale of 'relief'."

¹¹⁹⁸ "Neither we nor any royal official will take wood for our castle, or for any other purpose, without the consent of the owner."

¹¹⁹⁹ "men in our kingdom shall have and keep all these liberties, rights, and concessions, well and peaceably in their fullness and entirety for them and their heirs, of us and our heirs, in all things and all places forever."

space he need to assemble a more formidable military force. King John's contempt for the document was shared by Pope Innocence III, who one month after its signature, annulled the document and released him from his oath to obey it. The Pope declaring that the Magna Carta was a; "shameful and demeaning agreement, forced upon the King by violence and fear"¹²⁰⁰. So it was that in September of 1215, after regaining his strength, King John renewed hostilities and took the nation into a Civil War. In the first year of this war, King John died while on campaign in eastern England. In the second year the Civil War won by the supporters of his son, King Henry III. This victory over the rebel Barons likely delayed the evolution of a truly Noble property stage for a century, but the *Magna Carta* did mark the beginning of the end of the royal property stage in England, as it forever ended any royal claims to absolute authority over all the land in the realm.

For the proposes of defining a property stage, it needs to be mentioned that while the noble stage did see a dilution of ownership from the royals to the nobles, this did not necessarily mean that there was a corresponding diminution in claims of absolute authority. It was just that rather than the Royals claiming absolute authority over their kingdom, it was now the turn of Barons to claim absolute authority over their particular fiefdom. For an understanding of how this stage operated in practice one of the most interesting examples can be found on the River Rhine during the Holy Roman Empire.

Because of European geography the River Rhine has always played a major role in the flow of goods and services on the continent. However, in the Middle Ages, during a period that epitomized the Noble property stage, that that flow was virtually eliminated. The story of why this happen is included in a thesis written about tolls on the Rhine¹²⁰¹. According the thesis during the period covering the 8th to the 18th century there were up to 57 different Rhine customs and tolls stations located on the river. The customs and tolls from these stations being a major source of revenue for the Holy Roman Empire which dominated central Europe from 892 to 1802. Throughout most of this period the Emperors closely controlled the right to collect tolls by personally setting and selling the right to collect tolls to the local Barons. This right to collect a toll was not however automatic and had to be renewed every time the Emperor was changed. From a practical prospective having the authority to set and sell tolls was extremely important to the Emperors because, although it was an important source of revenue; they also knew that if the aggregate amount of tolls charged at the various tolling stations was too great this would dramatically restrict the flow of goods on the river, which would in turn reduce the economic activity in the Empire. As such most Emperor tended to keep the number of tolling stations to a minimum and the toll charged reasonable. For example, in 1250 AD there were 12 stations on the 180 kilometres stretch of the river between Mainz and Cologne.¹²⁰² The standard toll for an average ship being 8 denari (0.68 grams of silver) with larger ships paying a higher toll.¹²⁰³ The aggregate toll from all 12 stations adding up to 96 denari for the entire journey between the two cities. The interesting thing from a Noble property perspective is what happened when this centralized authority was lost and absolute decisions over the tolls moved from the Emperor to the Barons that lived on the river.

¹²⁰⁰ Pope Innocent III (August 24, 1215)

¹²⁰¹ Pfeiffer, F., *Rheinische Transitzoelle im Mittelalter*. [Rhein Transit Tolls in the Middle Ages]. (Akademie Verlag, Berlin, 1997).

¹²⁰² *Id.* 332

¹²⁰³ *Id.* 100

This occurred between 1250-1273 during the Great Interregnum, which marked the end of Hohenstaufen rule and the beginning of Habsburg rule. During this period disagreements on succession plans prevented the coronation of a new Emperor, creating a power vacuum in centralized authority. As such changes in the tolling operations were driven by the local Barons, operating on their own authority. While this did not represent a negotiated shift from a Royal to Noble property stage, it was none the less a shift, as the local Barons assumed absolute authority over the tolls charged on the sections of the rivers they controlled. What happened during this period is quite reviling, as it demonstrates what happens when too many parties claim absolute property rights over property that has both figuratively and literally, downstream implications for other property holders. During the first four year of this Nobel stage, Barons who previously did not have toll stations build new ones, effectively doubling the number of toll stations on the river. In addition, all of the Barons significantly raised the price of the tolls that they charged.¹²⁰⁴ But this was not enough for some Barons. The greediest Barons went so far as to steal the ships and their cargo, as well as kidnapping both crew and passengers. Perhaps the most notorious incident being when Baron of Rietberg kidnapped of the wife of the King of Holland. Given this behaviour it is hardly surprising that transport on the river experienced a dramatic decline, resulting in severe economic hardship for the towns that depended on the river for their goods and services.

While the individual Barons claimed that they had every right to exercise their absolute authority over the part of the river they controlled, the society did not accept this proposition. Because the combined effect of these separate act was detrimental the Empire at large, both the act of building unauthorised tolling stations and charging unauthorized higher tolls became known as “thelonia injusta” (unjust tolls). The other more aggressive acts were considered capital crimes and resulted in the Barons that practiced them, being called “Robber Barons”¹²⁰⁵.

The response of the communities affected by this behaviour is as notable, as the behaviour itself. A coalition of interested parties was created to deal with the Robber Barons, which called itself the “Rheinischer Bund”, the Rhine League. A declared purpose of the League was to promote a general peace along the Rhine, by providing security of trade routes and suppression of unjust tolls. This League had three distinct types of members; Cities, Princely Members, and Knightly members. The cities had a hundred members in the League, of which two were the founding members Mainz and Worms. The city members represented the interests of the merchants who were mainly interested in restoring the flow of goods on the river from a strictly commercial prospective. Combined the Princely and Knightly participation in the League was about thirty members. These members were all part of the higher and lower nobility, most of which controlled castles on the Rhine which were authorised to collect tolls and were intent on returning to the previous more prosperous toll collecting practices. The relative size of the two different groupings of members was significant as it is indicative of the changes in local power and military might.

Immediately after the League was established in July of 1254, it set about putting an end to the practices of the Robber Barons. Initially four major Robber Barons and their respective castles were attacked and destroyed by the League. Within three years ten Robber Barons were put out of commission and the Rhine was once again opened up to river traffic. Although this

¹²⁰⁴ *Id.* 391

¹²⁰⁵ These Rhine river Barons representing the original Robber Barons, and as will be discussed below this term was later used to describe the industrial tycoons of the late 19th and early 20th century.

was an impressive list of successes, the League fell apart shortly thereafter. There were two reasons for this. The first of which was the failure of an extensive and costly siege at Rheinfels which failed to force the Count of Katzenelnbogen to yield.¹²⁰⁶ The second was a disagreement within the League, as to the choice of a new Emperor. Because of this collapse, the flow of traffic on the river was once again threatened and this threat remained in place until a new Emperor was eventually established in 1273.

Notwithstanding the collapse and the return of the Emperor, the League did establish the practice of regional formations of interested parties, that continued to pursue mutually beneficial objectives long after its demise. In fact, it be credibly argued that this coalition of Nobles and merchants, was representative of the movement along the property continuum which lead to the demise of the Noble property stage and the establishment of the Aristocratic property stage. The catalyst to this movement being the merchant's discovery that when they acted together; the Nobles were more dependent on them, than they were on the Nobles. Such a dramatic enlightenment would have much more significant implications for the evolution property rights, than had occurred during the shift from Royal to Noble property. For this enlightenment was to result not only in a further dilution of the concentrated ownership, but also restricted the concept of absolute authority. As the misbehaviour of the Robber Barons proved, the Nobles could no longer assume that they could exercise absolute authority over their property regardless of the consequence to their society. Now they had to take into considerations the trading interests of the merchants. The merchants themselves, fighting alongside the Noble against the whims of the more authoritarian Nobles, forever changed their perception of who was entitled to the protection provided by the state.

The establishment of a principle that the protection of property rights was not a right just of royals and nobles, resented a watershed moment in the history of property rights. For once the rights of merchants were acknowledged it provided some of them with opportunity of achieving even greater prosperity which eventually lead to an aristocratic class.

14.2.4 Aristocratic Property Stage

While during the Aristocratic property stage there was a significant increase in the ranks of Aristocratic property owners, it remains classified as part of the concentrated ownership phase because the vast majority of population were still excluded from the possibility of owning property. As pointed out earlier, it should be understood that this generalization does not mean that during an Aristocratic property stage, there was no one outside the Aristocratic class that owned property. Rather the contention of this generalization is that the Aristocratic property represented the dominate form of ownership during the Aristocratic stage. Further like any evolutionary process, there can be significant overlaps between stages. These overlaps not only transcend one stage but can transcend multiply stages. As such in any given stages there may coexist; the dominate form of the stage, as well as several residual forms from previous stages and newly evolving forms of future stages. Nowhere is this more evident than in this stage. For it is in this stage that not only were there significant remnants of previous stages, but more importantly, it was during this stage that the subsequent stage was to slowly evolve into a critical

¹²⁰⁶ Pfeiffer, Rheinische Transitzeile, 396

mass that eventually replaced it.¹²⁰⁷ This does not mean that there are not reasonably clear aspects of this stage that make it a distinctive stage on the property continuum. And as mentioned above the most significant aspect was the concentration of ownership of land in the hand the aristocracy.

Regardless of the limited extent of property owners in this stage there was a fundamental change in the justification for property owner that makes this stage one of the most important stages on the evolutionary path of property rights. Prior to this stage the justification for property ownership for the most part was driven by conquest or divine providence. In the aristocratic property stage this changed with the addition and eventual replacement of those justification with a justification based on natural rights, a concept that will be explained below. Although the aristocratic stage can be generally viewed beginning when the Nobility accepted the trading rights of merchants in the 13th century, it was not until the late 17th century that this justification was clearly articulated in the writings of scholars and philosophers the most important of which revolved around the works of John Locke. His writings are so central to the justification of this stage that an examination of them and their implications is required before continuing the discussion of this stage.

To put John Locke's work in perspective it is first necessary to provide a brief history as to his background. Locke was born in 1632 into a wealth family, his father was a was a country lawyer and clerk to the Justices of the Peace, who had over the course of his life acquired significant properties upon which the family's wealth was based. In his youth he went to the prestigious Westminster School in London with the aid of a sponsorship from a member of Parliament who was his father's former commander. After completing his studies there, he was admitted to Oxford where he studies medicine and was introduced to experimental philosophy. In 1667, he met Lord Anthony Ashley Cooper, 1st Earl of Shaftesbury, and in that same year he moved into Shaftesbury's home at Exeter House in London, to serve as Lord Ashley's personal physician. Shaftesbury was a founder of the Whigs, a movement which sought to limit the use of absolute rule through the promotion of constitutional monarchism. More specific the movement was a primarily focused on protection of the assets of wealthy Protestant families from appropriation by a Catholic Monarchy, by limiting the absolute authority of the Monarch. Locke himself became involved in politics when Shaftesbury became Lord Chancellor in 1672. Following Shaftesbury's fall from political favour in 1675, Locke spent some time travelling across France as tutor and medical attendant for another member of Parliament. He returned to England in 1679 when Shaftesbury's political fortunes took a positive turn. Around this time, Locke composed the bulk of the *Two Treatises of Government*¹²⁰⁸ which included his work on property rights. What can be surmised from this background is first that Locke was clearly a member of the Aristocracy, second that Shaftesbury had a tremendous influence on Locke's political ideas.

Given his background and the context of his situation it can be reasonably presumed that the objective of his writing was two-fold. The obvious first presumption is that he wanted to find a way to delegitimize the claims of the Monarchy on the property of the nation. The second equally obvious, but more difficult task, is that he wanted to find a way of justifying the

¹²⁰⁷ This simultaneous evolution actually reflected two contemporaneous stages in two different forms of property. However, because the other stage was more inclusive it will be included in the universal property phase.

¹²⁰⁸ John Locke, *Two Treatise of Government*, (England, Awnsham Churchill, 1689)

accumulated wealth of the Aristocracy in a society where the majority of citizens were poor, property-less peasants that struggled on a daily basis to provide their families with basic food, clothing and shelter.

In order to achieve these goals Locke advocated the concept of natural law, rather than divine intervention, as a justification for property rights.¹²⁰⁹ It is worth noting that the notion of divine intervention was used by the Catholic Royalty for centuries and so to a certain extent promoting the notion of natural rights was an attempt to discredit not only the notion of divine rights, but also the legitimacy of the Catholic Monarch, King James II.

According to Locke, natural law represented a fundamental law that was in existence in primitive societies, it was the state of nature before the advent of government, money or trade. His natural law is based on the notions that the most basic property which all members of a society own is their own labour¹²¹⁰ and that in all individuals have an equal claim to unused natural resources and it would become the property of the first person that mixed their labour with unused resources.¹²¹¹ The analogy that Locke used to explain this concept began with a discussion of wild produce available in nature.

'He that is nourished by the acorns he picked up under an oak, or the apples he gathered from the trees in the wood, has certainly appropriated them to himself. Nobody can deny but the nourishment is his. I ask then, when did they begin to be his? when he digested? or when he eat? or when he boiled? or when he brought them home? or when he picked them up? and it is plain, if the first gathering made them not his, nothing else could. That labour put a distinction between them and common: that added something to them more than nature, the common mother of all, had done; and so they become his private right.'¹²¹²

He then goes on to explain how the same principle of mixing labour with wild produce can also be used to justify the appropriation of land by individuals.

'But the chief matter of property being now not the fruits of the earth, and the beasts that subsist on it, but the earth itself: as that which it takes in, and carries with it all the rest: I think it is plain, that property in that too is acquired as the former. As much land as a man tills, plants, improves, cultivates and can use the product of, so much is his property. He by his labour does, as it were, enclose it from the common.'¹²¹³

According to Locke this unilateral appropriation of property through labour was justified for four reasons. First, because the most basic possession an individual can have is their labour and when they mix that possession with an un-owned thing, the inability of separating their labour

¹²⁰⁹ Locke can only be considered an advocate of natural law, because the concept and other significant works on natural law predates his works. While the concept of natural law has been evident throughout human history, the first significant work on natural law can be attributed to the Dutch Lawyer Hugo Grotius in his pamphlet "*Mare Liberum*" (*The Free Sea*), published in 1609. A more extensive analysis of natural law was done by the Saxon legal scholar Samuel Pufendorf in his "*Elementa Jurisprudentiae Universalis*" (1660) and *De Jure Naturae et Gentium*" (1672). However, because all previous work on natural law were eclipsed in the public perception by Locke's work, the initial conception of natural laws is often mistakenly attributed to Locke.

¹²¹⁰ It is worth noting that Locke's did not apply the fruits of labour argument to his own slaves, which suggest that it was more of an apology than a principle.

¹²¹¹ This assumption ignores the possibility of communal property as described in this thesis common phase.

¹²¹² Locke, *Two Treatise of Government*, sec. 28

¹²¹³ *Id.* sec. 31

from the un-owned thing must imply that that thing also now becomes their property. Second, the actual labour improves the land and accounts for the majority of the value inherent in the land. Third, individuals are entitled to an unconditional right to provide for their subsistence, and if they were not allowed the appropriation process they quite simply would not survive. And finally, appropriation is justified because improving resources effectively makes more resources available to for others.

At the same time as providing a justification for the unilateral appropriation of property Locke suggested that there were three provisos that limited the amount of property that anyone individual could appropriate. First there was a no waste proviso. This proviso stated that no individual should appropriate more property than they could use, for to do so would result in the waste of that resource. This proviso is hugely significant, as it was no doubt intended as a justification of the limitation on the ability of the Royals to claim possession of vast quantities of land. Land that was held under absolute authority but was wasted because it was not fully utilized. The second proviso was a subsistence proviso, that required that everyone was entitled to sufficient resources to maintain their subsistence. This proviso was closely linked to his third proviso which required that any appropriation should leave sufficient resources available to others so that they too could mix their labour with resources in order to achieve the same level well-being as the initial appropriators. Once again it can be reasonably assumed that these later provisos were intended to justify the limitation of Royal appropriation. Taken together these provisos achieve his first main objective which was to delegitimize the claims of the Monarchy of absolute authority over all the property.

In attempting to achieve his second objective of justifying the accumulated wealth of the Aristocratic class, Locke relied on the introduction of a monetary system. Whilst his natural law proviso could equally be applied to the inequitable asset accumulation of the Aristocratic class, he argued that they should not apply because the introduction of a monetary system eliminated or moderated their limitations. With respect to the no waste proviso he argued that because the monetary system allowed Aristocrats to convert their resources into money and money can be stored without wastage, the no waste proviso only becomes relevant when people hold their wealth in idle, non-productive, non-financial assets, such as fallow land. The subsistence and as good as provisos were also resolved by the introduction of the monetary system, as the property-less peasant that could sell their labour to the landowners, which would allow them to sustain their existence with the ability to sell their labour represented as being as good as having access to the resource that had been already appropriated. Further Locke argued that when property-less peasant took jobs working for those with property, they had in essence provided implied consent to the current property arrangements, regardless of how disproportionate or unequal they might be.¹²¹⁴ This analysis of the effect of the monetary system on property rights, represent the very foundation for the concept of Aristocratic property, as it justifies the disproportionate accumulation of assets without assuming or addressing any historical property disparities. Indeed, he blithely assumes a state of equity amongst all men stating;

¹²¹⁴ Locke never explains how landless peasant should have communicated their dissatisfaction with his analysis of property rights, but that is another story well beyond the scope of this paper.

'all men are naturally in, and that is, a state of perfect freedom to order their actions, and dispose of their possessions and persons, as they think fit, within the bounds of the law of nature, without asking leave, or depending upon the will of any other man'¹²¹⁵

It should be noted Locke's thoughts on property were included in his thoughts on government and the role of government. With respect to government, his view was that one of the primary purposes of government was to protect property.¹²¹⁶ Given that during his time most property was owned by the Aristocracy, this can be interpreted as an endorsement of the existing concentrated property ownership of the Aristocracy. The implications of all this being that there was an implicit assumption; that the "landed gentry" had gained that property through the fruits of their labour and ownership of property is de facto evidence that they deserve to own it.¹²¹⁷

While the tautology, that property ownership was de facto evidence a superior right to own property was only articulated by Locke in 1689, it is evident that this belief in the superiority right of the Aristocracy to own property pervaded every Aristocratic society which ever existed. Evidence of this can be found not only in the way the Aristocracy, consolidated their control over European property but also the in the way in which the Aristocracy acquired vast swaths of property in new world and monopolized world trade.

The manner in which the Aristocracy consolidated control over European property was through a process called enclosure. The manner in which they acquired vast swaths of land in the new world was through Royal Charters and Petitions. The manner in which they monopolized trade were through the Government granted monopolise to Charter companies. An explanation and examples of each of these is provided below.

The enclosure process can be defined as a process whereby formally feudal land owners forced their traditional tenants off the land in order to fence in the that same land, primarily for sheep grazing or other private purposes. In England this enclosure process originated as early as the 13th century and peaked in the 17th century.¹²¹⁸ Prior to enclosure, land utilization under a feudal system generally involved the land owner providing common land to their subservient labours to allow then to grow their own crops, graze their animals or to hunt. This utilization was consistent with traditional social obligation on the part of the land owners to take responsibility for the general welfare and well-being of their resident populations. The fundamental and most contentious part of the enclosure process was the abandonment of this social obligation, which led to the creation of an underclass of displaced landless labourers, forsaken by their previous benefactors.

From Locke's prospective the enclosure process was viewed as an effort to improve the productivity and profitability of their property holdings. Rather than allowing land to be used for

¹²¹⁵ Locke, *Two Treatise of Government*, Sec. 4

¹²¹⁶ *Id.* Sec. 124 "The great and chief end, therefore, of men's uniting into commonwealths, and putting themselves under government, is the preservation of their property" and Sec. 138 "The Supreme power cannot take from any man any part of his property without his own consent."

¹²¹⁷ Despite the more contrived and opportunistic natural law justification it should be noted that Locke did make a huge contribution to the latter evolution of property rights by advancing one of the first utilitarian justification for property rights. This contribution was his insightful observation, that the possibility to accumulate assets property provided a powerful incentive for increasing productivity. This contribution will be discussed in the first stage of the universal phase.

¹²¹⁸ E. P. Thompson, *The Making of the English Working Class* (Penguin, New Edition, 1991) p 217

subsistence farming by their tenants, they could be used to raise sheep, which reduced the labour requirements and increased the revenue generated on the land. The social obligation to their resident population being superseded by newer notions of absolute private property rights, which entailed a right to use the property in any way that the owner saw fit, regardless of the consequence to third parties or society as a whole. That notion of absolute property rights should be inherited by the Aristocratic property stage is both, predictable and ironic. Predictable, because it was an established property norm. Ironic, because it was a central cause of the demise in both the Royal and Noble property stages.

Given the social upheaval that the enclosure process generated, it is not surprising to find that there were legislative attempts against enclosure. In the 1489 the Tudors, who were supposedly concerned about a decline in taxes revenues from the villagers and worried that villagers who lost their home and livelihoods might become criminals, enacted the first anti-enclosure laws¹²¹⁹. Over the course of the next 150 years, there were 11 more Acts of Parliament and eight commissions of enquire on the subject.¹²²⁰ Curiously, none of these laws forbid enclosure. Instead they placed financial penalties of landowners that either demolished housing or converted cultivate land into grazing land. For example, under the 1489 Act, half of the profits from enclosure would go to the Crown if a house was demolished. Similarly, under the 1515 Act, conversion of arable land to pasture became an offense but was permitted if half the profit from the enclosure would go to the crown. The distribution of the profits to be monitored by a commission established by the Crown. So while they were called Anti-Enclosure Acts; these Acts appear to be less about preventing enclosure, than they were about ensuring that the Royals got their share of the benefits.

The disingenuousness of the concern is supported by the fact that in the centuries that followed their enactment, the enclosure process continued apace despite protest and riots.¹²²¹ This process ultimately reached its peak in the period between 1760 and 1820, when the government rather than pretending to resist enclosure, introduced Acts promoting enclosure.¹²²² Under these Inclosure Acts the government was essentially attempting to eliminate the common right to land, by joining them together with the "Property of the Soil".¹²²³ While there is substantial verbiage included in the Inclosure Acts that purport to protect the common rights of the tenants, history shows that their interests were not were protected, as the inclosure acts literally threw millions of labours off the land and forced into them into urban squalor.

For a more specific example of how aristocratic property benefited the aristocracy and resulted in severe hardship to the tenant farmers, one need look no further than Ireland. Without going into the historical details of how it happened, what is clear is that since the beginning of 17th century the vast majority of Irish property was owned by the English and Irish aristocracy.¹²²⁴ This ownership structure, in no small part due to the laws which prohibited the 80% Irish Catholics population from owning or leasing property, as well as prohibiting them from obtaining an education or from entering a profession that would have provide them with the

¹²¹⁹ The Anti-Enclosure Acts of 1489 and 1515

¹²²⁰ Maurice Beresford, *The Lost Villages of England* (Sutton Publishing, revised edition, 1998) p 102

¹²²¹ The Kett's Rebellion in 1549, The Midland Revolt in 1607, Newton Rebellion in 1607, to name a few.

¹²²² The Inclosure Acts of 1773 to 1882,

¹²²³ The Inclosure Act of 1845 Article XI

¹²²⁴ For example, The Earl of Lucan owned over 60,000 acres (240 km²)

resources they needed to purchase property.¹²²⁵ While the Irish aristocracy may have managed their property, most of the English aristocracy did not. Rather they remained absentee landlords, relying on local (almost exclusively protestant) middlemen to manage their property. Under this middle man system, the English aristocracy were effectively relieved of any responsibility for the well-being of their tenants, as they were both physically and managerially distant from their property, and the middlemen were given a free hand to exploit them as they saw fit.

The way this system usually worked was that the middlemen would lease tracts of the land, for long terms, at fixed rates, from the landlords. They would then split up the leased property in much smaller parcels and sublet them to tenant farmers, keeping the any amounts above their leasing cost for themselves. The tenant farmers would raise cash crops like corn and wheat which they would sell to pay the middlemen and grow gardens to feed themselves. Like the landlords, the middlemen felt that they too were relived of any responsibility for the well-being of the tenants, as they considered themselves simple businessmen who were trying to maximise their profit. All this meant that the interests of the tenant farmers were protected by no one, making the terms of their occupancy very harsh indeed. They had no security of tenure on the land; being tenants "at will" they could be turned out whenever the landlords or middlemen chose. They were regularly evicted for reasons such as; none payment of rents, or because a decision was made to raise sheep instead of cash crops. Even if they were able to maintain their tenancy, the size of their farms was so small that the cash crops necessary to pay the rent left little land on which to grow gardens to feed their families.¹²²⁶

The tenants of the Irish aristocracy fared no better, as the Irish management usually involved providing labourers with a parcel of land on which to grow crops as payment for their labour. And just as with the tenant farmers of the English owned property, the size of the land provided was too small to allow for anything but the bare survival of a family. Further, the only crop which could produce sufficient quantity of food in these small allotments was potatoes. This dependency on potatoes was to have severe consequences in the years 1845- 1848, because it was during those years that the disease commonly known as potato blight struck Ireland, creating the Great Famine.

In 1845, between one third to one half of the potato crop was lost. In 1846, it is estimated three quarters of the harvest was lost. Although the blight ended in 1847, the shortage of seed crops hampered production for an additional year. All this meant that great numbers of the Irish poor who depended on the potato for survival, were quite simply dying of starvation.¹²²⁷ It should be noted that during this same period, there was an abundance of other crops that were being successfully cultivated in Ireland and the island itself was producing significantly more food than was needed to feed its population. The problem was that these crops did not belong to the poor, they belong to the Aristocracy and as the poor had no money to pay for them, they were being sold for export. This irony was immortalised in one of the most insightful political comments of the period, which stated that:

¹²²⁵ These restrictions on Catholics owning property were not repealed until 1793 under the Act of Emancipation.

¹²²⁶ The Devon Commission of 184 reported that 24% of all Irish tenant farms were between 0.4 to 2.0 hectares in size and a further 40% were between 2-6 hectares.

¹²²⁷ It is estimated that during the famine approximately 1 million people died and another million emigrated from Ireland.

'Potatoes failed in like manner all over Europe; yet there was no famine save in Ireland. The Almighty, indeed, sent the potato blight, but the English created the famine'¹²²⁸

To be fair while this comment would tend to suggest that the English aristocracy and its government were totally indifferent to the plight of the Irish poor, this is not entirely true. In 1845 Prime Minister Peel secretly arranged for the importation of £100,000 worth of corn meal from America. He also established a number of emergency public work programs, none of which were anywhere adequate to the crisis. In 1846 his government repealed the tariffs on grain which kept the price of bread artificially high. Although this had little effect on the poor, who had no money to buy wheat at any price, it did have the effect of bringing down his administration.

The new Lord John Russell Whig's administration, halted government food aid and public works programs, leaving many hundreds of thousands of people without any work, money or food. This decision can be seen as the flip side of the natural rights beliefs. Just as those that have property deserve to have it, those that don't have property don't deserve to have it. The view being clearly articulated by Sir Charles Trevelyan, the man put in charge of the new administration's Irish Famine relief program, who said;

'The judgement of God sent the calamity to teach the Irish a lesson, that calamity must not be too much mitigated.... The real evil with which we have to contend is not the physical evil of the famine, but the moral evil of the selfish, perverse and turbulent character of the people.'¹²²⁹

Instead of helping the poor in Ireland through food aid and public works, this new administration instead relied, on the imposition of Poor Laws Acts. These Acts required that local community to set up work houses, where the poor were required to work in order to obtain any relief. The relief itself to be determined at the discretion of the guardians, who were generally the local landowners who had to pay the cost of setting up the work houses. Because the Poor Laws forced landlords to provide workhouses and relief, based on the number of tenants that had on their land, this provided an incentive for the landlords to evict tenants from their lands. These evictions were greatly increased after the English government amended the Poor Laws, with the passage of the "Gregory Clause."¹²³⁰ Under this clause anyone who held more than a quarter of an acre of land, was prohibited from receiving relief. In practice, the Gregory clause effectively forced the poor to turn over their very limited property rights over to his landlord. This left the now landless poor, with two choices. Either they could be reduced to virtual slaves in the work houses or they could emigrate. The emigration option provides a useful transition to how Aristocratic property evolved in the New World.

The evolution to Aristocratic property in the New World can be most easily illustrated by comparing the method in which Aristocrats and landless peasants gained property rights in America. Whereas the Aristocrats gained vast properties and property rights under Royal Charters and Petitions, the landless peasants often had to endure years of unpaid servitude

¹²²⁸ John Michael, *The Last Conquest of Ireland* (Perhaps), (UCD Press 1861)

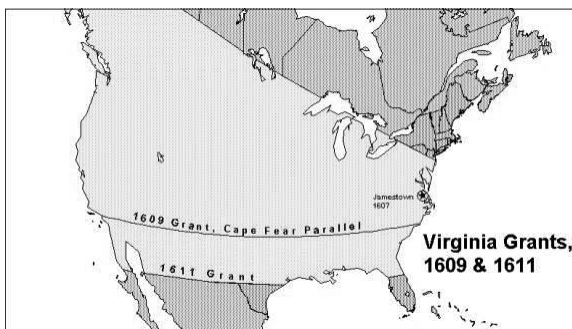
¹²²⁹ Sir Charles Trevelyan, In a letter to Edward Twisleton, Chief Poor Law Commissioner in Ireland, (1846)

¹²³⁰ It is called the Gregory Clause because it was introduced by Sir William Gregory of Coole Park, Gort, and Member of Parliament for the city of Dublin.

before they were allowed to acquire even minor pieces of property. This difference is on full display if one compares the Royal Charters for the Province of Virginia,¹²³¹ with the agreements for indentured servitude that the landless peasant had to accept.

In the first Virginia Charter¹²³², King James granted to two companies¹²³³ set up by “Sir Thorn as Gales, and Sir George Somers, Knights, Richard Hackluit, Clerk, Prebendary of Westminster, and Edward-Maria Wingfield, Thomas Hanharm and Raleigh Gilbert, Esqrs. William Parker, and George Popham, Gentlemen, and divers others of our loving Subjects”, land encompassing almost the entire east coast of America from Newfoundland to Florida. Under the Charter these it was agreed that these Aristocrats “shall have all the Lands, Woods, Soil, Grounds, Havens, Ports, Rivers, Mines, Minerals, Marshes, Waters, Fishings, Commodities, and Hereditaments, whatsoever, from the said first Seat of their Plantation and Habitation” in return for one fifth of any gold, silver and one twentieth of any copper mined in the colonies. This was typical for an Aristocratic property transaction, the land was to be theirs with no money down, in return for a promise to provide a share of future mineral wealth to the Monarchy.

Despite this rather generous first grant, within three years it was amended to offer even greater inducements to the Aristocracy to take over ownership of the property in the new world. In the second and third Virginia Charters, the size of the land granted increased from being limited to one hundred miles inland from the east coast to one that went from coast to coast and covered most of continental North America.¹²³⁴ (See Illustration) As with the previous grant this grant too required no money down and had a commitment to provide the Monarchy with a similar share of the resources mined in the country.



The basic operating model of these companies being that they would establish colonies on the lands granted and sell parcels of lands to new emigrants in order to recoup any investments they may have had during the initial establishment of those colonies. This model made two main assumption that proved

false. The first of which was that it would be easy to colonize the new land, which it was not. The second and more important from a property prospective, being that the new emigrants would have the resources to pay for the parcels of land that the companies wished to sell, which they did not.

¹²³¹ The First Virginia Charter (April 10, 1606), The Second Virginia Charter (May 23, 1609), The Third Virginia Charter (March 12, 1612), Petition for a Charter of New England by the Northern Company of Adventurers; (March 3, 1619/20)

¹²³² The First Virginia Charter (April 10, 1606)

¹²³³ The Virginia Company of London and The Virginia Company of Bristol

¹²³⁴ The Second Virginia Charter (May 23, 1609), The Third Virginia Charter (March 3, 1619)

Not only did the majority of the potential emigrants not have resources to pay for new land, most did not even have the resources to pay for transportation to the new colonies. As a result from the beginning; the most common way for emigrants to America to get to the colonies was through a system of indentured servitude. It has been estimated that the indentured servants comprised almost 80% of the total British and continental emigration to America, prior to the American Revolution.¹²³⁵ A typical example of indentured servitude would involve the father of a teenage child making a deal with a ship's captain to provide transportation to the colonies in return for a commitment that the teenage would work off the transportation cost when he got to there. Generally speaking the legally binding terms of indentured servitude would range from 3 to 7 years depending on the skills of the teenager.¹²³⁶ The reasons why a parent of a teenage child would agree to such an onerous obligation on the part of their child was because it represented the best of three bad options; the other two being, starvation or the virtual slavery of a workhouse. Once the captain arrived in America he would sell the indentured servitude papers to local plantation owners to recover his costs.¹²³⁷ The plantation owners, who were generally Aristocrats, depended on this cheap labour to both cultivate their fields and serve in their households. Even after this period of servitude, many of these immigrants would still have no resources to purchase land of their own. As such further years of work would be required before they could join the ranks of the landowners,¹²³⁸ although some indentured servant contracts did provided land to newly indentured servants once they completed their contracted period of indentured servitude.¹²³⁹

While there is no doubt that the demand for European indentured servants was significantly reduced by the rise of the African slave trade and the use of indentured Chinese servants, it can be credibly argued, that it was the lack of supply of European indentured servants that created a need for alternative sources of labour. This reduction in the supply of European indentured

¹²³⁵ Richard B. Morris, *Emergence of American Labor*, (U.S. Department of Labor, 2005)

¹²³⁶ A typical example of such a indentured servitude contract would be the following contract between Elizabeth Adams and Captain William Peice (1635): "This Indenture made the fourteenth day of April 1635 in the tenth yeere of the raigne of our soveraigne Lord King Charles I, etc. between Elizabeth Adams of the one party and Captain William Peirce on the other party. Witnesseth, that the said Elizabeth Adams doth hereby promise the said Captain William Peirce to serve him from the day of her first arrival in Virginia for and during the terme of sevene yeeres. The said Captain William Peirce hereby promises to employ the said Elizabeth Adams as a poultriss and not to employ her in the Common workinge in the Grounde. In consideration whereof, the said Captain William Peirce doth promise the said Elizabeth Adams to pay for her passage from England to Virginia, and to find her with Meat, Drinke, Apparell and Lodging, with other necessaries during the said terme; and at the end of the said terme, to give her one whole yeeres provision of Corne and one cast irone pott. In witness whereof the said Captain William Peirce hath put his hand and seale, the day and yeere above written."

¹²³⁷ A typical example of such a process is demonstrated in the following advertisement in the Pennsylvania Gazette (weekly Philadelphia newspaper), August 17, 1774. "Just imported, on board the Snow Sally, Captain Stephen Jones, Master, from England, A number of healthy, stout English and Welsh Servants and Redemptioners, and a few Palatines [Germans], amongst whom are the following tradesmen, viz. Blacksmiths, watch-makers, coppersmiths, taylors, shoemakers, ship-carpenters and caulkers, weavers, cabinet-makers, ship-joiners, nailers, engravers, copperplate printers, plasterers, bricklayers, sawyers and painters. Also schoolmasters, clerks and book-keepers, farmers and labourers, and some lively smart boys, fit for various other employments, whose times are to be disposed of. Enquire of the Captain on board the vessel, off Walnut-street wharff, or of MEASE and CALDWELL."

¹²³⁸ An Act for all Servants Comeing into the province with Indentures: "That all Servants at the Expiration of their Severall times of Service (if there be no other agreement) besides their old Cloathes shall be allowed one Cloth suit one pair of Canvis Drawers, one pair of Shoes and stockings one new Hatt or Capp, if he hath not one Sufficient at that present, one falling Axe one weeding Hoe, two Shirts and three Barren's of Corne."

¹²³⁹ Indentured Servant Contract between Edward Hurd Citizen and Iron monger of London and Richard Lowther: "But alsoe at the expiration of the said terme shall and will graunt assign and allott unto him the said Richard Lowther the quantety of Fifty acres of Land in Virginia"

servant was a natural reaction to the news of deaths and mistreatment which were filtering back to Europe. Unsurprisingly, the prospect of dying in virtual slavery in the new world became a less desirable option, than living in virtual slavery of the European workhouses.

It was only after this decline in the supply of European indentured servants, that the Colonies began to provide land as an incentive to immigrate. This change in incentives can be viewed as the beginning of the end of Aristocratic property stage. For once the privileged land grants were no longer the exclusive domain of the aristocrats, it only was a matter of time before the whole concept of aristocratic property would be called into question.¹²⁴⁰ Generally these questions resolved around the status of the both the landless peasant and the merchants in a society and the rising expectations of both groups. From the context of attempting to define a time frame for the end of the aristocratic property it is worth noting that indentured servitude was still practiced in America up to 1885 when it was outlawed.¹²⁴¹ That this date was twenty years after the American Civil War which abolished slavery, speaks volumes about Aristocratic resistance to an evolution from an Aristocratic property stage.

As far as the merchants were concerned it should be recalled that the rise of the merchant class began during the noble property stage when the merchants, nobles and aristocrats came to realize the importance of the merchants in the social, economic and military affairs of the society. This importance was driven by the expansion of trade between societies. As societies became more dependent on foreign goods, not only did these merchants become a more critical component in the local economy because of their trading activities, but also because of the wealth that those trading activities generated. As was discussed in the noble property stage it was this wealth that financed the military and gave the merchants a seat at the table when policy was being decided in any given society.

To the extent this rise in the merchant class expanded dramatically during the aristocratic property stage it could be said that it was part of that stage. Alternatively, it could be said that because the people and property involved in the rise of the merchant class were so different from those directly associated with the aristocratic property stage, it should be treated as a separate stage. This second approach would be supported by the traditional analysis that identifies a new economic model called mercantilism, which arose towards the end of the aristocratic property stage. This second approach is also supported by a growing recognition that property, was not just land but anything which could produce profits for its owners.

Despite the merits of this second approach, there is one particular aspect of the rise of the merchant class that would appear to place it firmly in the aristocratic property stage. That aspect being that a significant part of the mercantile activities, involved the granting of privileged trading rights to government-chartered trading companies. For so long as trading rights were limited by these government granted monopolies, and those monopolies provided opportunities to only a few select merchants, there can be no doubt that it represented another form of aristocratic property. For proof of these aristocratic tendencies one need only look at the largest and most important trading companies that dominated the so called mercantile

¹²⁴⁰ An interesting side note to this point is that both Benjamin Franklin and Andrew Johnson were bound apprentices, who came from circumstances similar to indentured servants. Bound apprentices were bound out to work as an apprentice until a certain age. Usually they either were orphans or from an impoverished family who could not care for them. Both Franklin and Jackson fled their apprenticeships before they were over. Benjamin Franklin went on to become a founding father of the United States, while Andrew Johnson became America's 17th President.

¹²⁴¹ Alien Contract Labor Law (Sess. II Chap. 164; 23 Stat. 332) (1885), also known as The Contract Labor Law of 1885

economic period. While the list of these companies is long,¹²⁴² there are two that stand out from the others in terms of the magnitude of their operations and the exclusive nature of their ownership and these are; The (English) East India Company (1600), and The Dutch East India Company (1602).

The East India Company was granted a Royal Charter under the name “Governor and Company of Merchants of London Trading into the East Indies”, by Queen Elizabeth I, on 31 December 1600. As the name indicates, the company was formed by a group of London businessmen who came together to make money importing spices from South Asia. Under the charter its 215 original shareholders were granted a 13-year monopoly on trade Southern Sea Routes with territories or countries east of the Cape of Good Hope (the southern tip of Africa) and west of the Straits of Magellan (the southern tip of South America).¹²⁴³

The objective of the Charter was to facilitate a secure supply of goods from the Far East for England. The new secure supply of goods was needed because during the Protestant Reformation; the Catholic countries who dominated the trade, cut off the supply of Far Eastern goods to England.¹²⁴⁴ The Charters themselves were considered by the Monarchy to be a natural and inexpensive solution to this problem. It was natural because monopolies were at that time, considered to be a normal practice as far as commerce was concerned. This is evident not only in the monopolies that were granted to various trade guilds, but also in the monopolies granted by Papal Bulls as a result of discovery and monopolies derived from effective occupation after

¹²⁴² **Significant Charter Companies: English and British;** Company of Merchant Adventurers to New Lands (1553), Muscovy Company (1555), Spanish Company (1577), Eastland Company (1579), Turkey Company (1581), Morocco Company (1588), East India Company (1600), New River Company (1604), Levant Company (1605), Virginia Company (1606), French Company (1609), London and Bristol Company (1610), Somers Isles Company (1616), Massachusetts Bay Company (1629), Providence Island Company (1629), Royal West Indian Company (1664), Hudson's Bay Company (1670), Royal African Company (1672), Greenland Company (1693), 1711 South Sea Company (1711), Sierra Leone Company (1792), African Company of Merchants (1752-1821), Van Diemen's Land Company (1824), South Australian Company (1835), New Zealand Company (1839), Eastern Archipelago Company (1847), British North Borneo Company (1881), Royal Niger Company (1886), British South Africa Company (1889). **Scottish;** Guinea Company of Scotland (1634), Company of Scotland (1698). **French;** Company of One Hundred Associates (1613), Compagnie des Îles de l'Amérique (1635), Compagnie de Chine (1660), Compagnie de l'Occident (1664), Compagnie des Indes Orientales (1664), Compagnie des Indes occidentales (1664), Compagnie du Mississippi (1717). **German;** Brandenburg African Company (1682), Emden Company (1752), German West African Company (1882), German New Guinea Company (1884), German East Africa Company (1884), Astrolabe Company (1891). **Portuguese;** Companhia da Guiné (1482), Portuguese East India Company (1628), Companhia de Moçambique (1888), Companhia do Niassa (1891). **Dutch;** 1602 Dutch East India Company (1602), Nordic Company (1614), New Netherland Company (1614), Dutch West India Company (1621), Ostend Company (1717). **Scandinavian;** Stora Enso (1347), Danish East India Company (1616), New Sweden Company (1638), Swedish Africa Company (1649), Danish West India Company (1671), Swedish East India Company (1731), Swedish Levant Company (1738), Royal Greenland (1774), Swedish West India Company (1786). **Russian;** Russian American Company (1799).

¹²⁴³ Other trade routes including northern sea routes or overland routes through Turkey were not restricted by this grant of this monopoly. However northern routes proved infeasible and the overland routes were restricted by Portuguese and Spanish control of the Mediterranean.

¹²⁴⁴ The Catholic domination of the Far East trade and American trade was initiated when Portugal was granted a monopoly on Far East trade by the Romanus Pontifex, a papal bull written in 1455 and expanded when Spain was granted a monopoly on American trade by the Inter Caetera Divina dated the 4th May 1493. (both papal bulls are discussed in the earlier in the Royal Property stage). These monopolies were combined under one authority in 1580 when the Portuguese King died without a successor, and Spain and Portugal were merged under a single Monarch. During most of the intervening years both Portugal and Spain maintained their monopolies as a result of other European Monarchs respecting that papal authority in this matter. This all changed during the Protestant Reformation. Because of the Reformation, Protestant nations no longer recognised the authority of the Pope. Further after the defeat of the Spanish Armada in 1588 the Catholic Monarchs' ability to exert military control over sea routes was greatly reduced, providing an opportunity for Protestant nations to take action.

discovery. It was inexpensive in that the enterprise was financed by private parties and not the Monarchy.

However, despite the objective or the reasons for establishing the Charter, it had to be considered an aristocratic enterprise for three reasons. First the initial share price for the initial investors was so high that only the very wealth could participate.¹²⁴⁵ Second the ability of subsequent potential investors to join the enterprise was limited.¹²⁴⁶ And finally and most importantly the extension of the Charter by subsequent Monarchs and Parliament,¹²⁴⁷ which allowed one company to maintain an effective trade monopoly, representing 15% of British trade, for 250 years. That such a huge trading opportunity should be granted to a single company for such an extended period of time can only be describe as an aristocratic property structure, even if it had not resulted in the company becoming the corporate sovereign ruler of India.

A similar analysis can be used to describe the Dutch East India Company. It too had a Charter from a Protestant nation seeking to avoid the Far East trade restrictions imposed by the Catholic Monarchs of Spain.¹²⁴⁸ Under that Charter it too was granted a monopoly for trade between the countries east of the Cape of Good Hope and west of the Straits of Magellan. The main differences between the (English) East India Company and the Dutch East India company were the initial size and scope of its initial share offering. Unlike the English, the Dutch company was set up on a much more inclusive basis, with all Low country merchants involved or interested in Far East trade being offered an opportunity to participate. This allowed the company to raise significantly more capital, an enormous 6,500,000 florins, (£540,000)¹²⁴⁹ which was eight times the initial English offering. The company used this money not to finance single voyages to the Far East but to set up a nationalized Far East trade conglomerate that would oversee all aspect of trade with the Far East. Which under the terms of the Charter, provided them with the authority to not only trade but to; establish colonies, construct forts, to make peace treaties with friendly Far East rulers, to make war with unfriendly Far East rulers, and to seize foreign ships that attempted to break their monopoly. While the initial offering of the Dutch East India Company was more inclusive; it is still fair to say that given the broader scope of the Charter, this too has to be considered a privileged property grant which would meet the definition of aristocratic property.

Further it should be noted; given the overlapping nature of the two Charters it was inevitable that the English and Dutch would come into conflict over Far East trade.¹²⁵⁰ While these disputes

¹²⁴⁵ The initial price for the shares was £200, which adjusting for earnings would be roughly equivalent to £400,000 in 2010 currency. Using the same adjustments this would make the entire initial offering of £68,373 worth £ 136,740,000 in 2010 currency.

¹²⁴⁶ While the profits from the voyages were extremely high subsequent offering were needed as each voyage was treated as a one off investment. It was anticipated that investors would use the profits from earlier voyages to finance future voyages. Participation in the subsequent offerings were initially not public and usually limited to previous participants or their male children, although this did change in later decades.

¹²⁴⁷ Charter was renewed for an indefinite period by King James I in 1609, and British Crown finally took over rule of the India from the company in under the Government of India Act 1858.

¹²⁴⁸ Holland and the other Low countries had formed part of the Spanish Empire prior to the Reformation and were fighting Spain for Independence. They were particularly concerned because until the restrictions were imposed Amsterdam and Antwerp were the principle ports used by the Spanish to import to Far East goods into mainland Europe. The restriction of these imports therefore represented a very real threat to their economies.

¹²⁴⁹ Adjusted for earnings this would equate to £1.08 billion in 2010 currency.

¹²⁵⁰ In anticipation of this inevitability conflict the second Dutch Charter included specific clause which detailed the government's military response to it. Charter of the Dutch East India Company (1621), Article XL "And if by a violent and continued interruption of the aforesaid navigation and traffic, the business within the limits of their Company shall be brought to an open war, we will, if the situation of this country will in any wise admit of it, give them for

were not immediate, they certainly were a major underlying factor in the first Anglo Dutch war of 1652, and a significant contributing factor in the following three Anglo-Dutch wars.¹²⁵¹ That a nation should go to war over the privileged trade monopolies granted to the aristocratic members of its society, provides fairly conclusive evidence that of the existence of an aristocratic property.

In so far as; all of the aristocratic property examples presented provided special privileges to the aristocracy, usually to the detriment of the non-aristocratic members of society, it could be assumed that overall society benefited little from its evolution. This assumption would be false. It is false because of the overall advances in the productivity of in all forms of property was so great during this stage; that it was inevitable that some of the benefits from that productivity increase would flow to all members of society. In the agricultural property these productivity increases came from things like better crop rotations and mechanization. In merchant property the development of extensive trading activities carried on by the trading houses, allowed for greater specialization of manufacturing activities which in turn allowed for mechanization and the division of labour in a manner that dramatically increase productivity.¹²⁵² To the extent these increase in productivity were made possible by the creation and adoption of legally protected private property rights, the aristocratic property stage certainly has to be considered a positive influence on societies.

their assistance sixteen ships of war, the least one hundred and fifty lasts burthen; with four good well sailing yachts, the least, forty lasts burthen, which shall be properly mounted and provided in all respects, both with brass and other cannon, and a proper quantity of ammunition, together with double suits of running and standing rigging, sails, cables, anchors, and other things thereto belonging, such as are proper to be provided and used in all great expeditions; upon condition, that they shall be manned, victualled, and supported at the expense of the Company, and that the Company shall be obliged to add thereto sixteen like ships of war, and four yachts, mounted and provided as above, to be used in like manner for the defence of trade and all exploits of war: Provided that all the ships of war and merchant-men (that shall be with those provided and manned as aforesaid) shall be under an admiral appointed by us according to the previous advise of the aforesaid General Company, and shall obey our commands, together with the resolutions of the Company, if it shall be necessary, in the same manner as in time of war; so notwithstanding that the merchantmen shall not unnecessarily hazard their lading."

¹²⁵¹While the 1st War (1652–1654) was principally about trade conflicts, the 2nd (1665–1667), 3rd (1672–1674) and 4th (1780–1784) were principally about conflicting claims to the Monarch of England and Holland, although there was a significant underlying trade dispute.

¹²⁵² Adam Smith described an example of this in *The Wealth of Nations* (Book I, Ch. 1) when he described the change brought about by the division of labour for the production of pins: "To take an example, therefore, from a very trifling manufacture; but one in which the division of labour has been very often taken notice of, the trade of the pin-maker; a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on, is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of a middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins, might be considered as making four thousand eight hundred pins in a day."

However, it also must be acknowledged that these increases in productivity were significantly delayed by the very concentration of property ownership, that was inherent in the aristocratic property right stage. This because highly concentrated wealth during the stage, not only limited the economic development opportunities of the rest of the population, but it requires that those that have the wealth to be actively engaged in trying to achieve economic development. Unfortunately, the reality of the aristocratic life during this stage was that most were more concerned with maintaining their superior living standards, rather than furthering the economic well-being of society as a whole. Further because the aristocracy was based on birth and not competence, this also contributed to a general lack ability of innovation during this stage. Taken together the lack of interest and the lack of ability, explains why innovation took so long to be developed and be adopted during the 200 odd years when the aristocratic property stage was the principle ownership structure.

As mentioned in previous stages although the aristocratic property described in this stage were representative of the principal ownership structure during the stage, this should not be mistaken for an assumption that the aristocrats owned all property in the aristocratic property stage. This clearly was not the case. Regardless of whether it was the tenant farmers in Ireland, indentured servants in America, or the general merchants during the mercantile period, many others owned or after much struggle were able to own increasing amounts of property. This gradual change in the nature of property ownership is why the property continuum is presented as an evolutionary and not revolutionary change in property structures. That being said, after these non-aristocratic property owners eventually reached a critical mass, the shift from the concentrated property phase to a universal property phase did have certain revolutionary components. Not the least among these were the political revolutions that took place in America (1775–83) and the France (1789–1799).

Ironically these political revolutions sought inspiration from the very same writing of John Locke, that were used to justify the aristocratic property stage. It has to be remembered that his thoughts on property were contained in his *Treatise on Government*,¹²⁵³ which challenged the legitimacy of the absolute authority of the Monarchy. While these views resonated with the landed aristocracy they had an even greater impact on the merchants and landless peasant. If the Government was truly to represent the will of the majority,¹²⁵⁴ why should the majority will be limited to the Aristocracy? It was the merchants that were able to exploit this contradiction, by pointing out that as wealth generators they deserved to have a greater say in Government. And once they had a say in government, it became inevitable that the demands of the rest of the people would also have to be heard. In the case of both the French and the American revolutions, when the aristocrats refused to hear the people, the people simply got rid of the aristocrats.

Of course, it could be argued that this preferential treatment of aristocrats in both Europe and the New World was only a reflection of the reality that the accumulated wealth of the world was in the hands of the aristocrats and as such it was not aristocratic property stage but rather of some sort of new economic property stage. This assessment might be appropriate if one were to ignore; the legal privileges that encouraged concentrated property ownership under the

¹²⁵³ Locke, *Two Treatise of Government*

¹²⁵⁴ *Id.* para. 96 “For, when any number of men have, by the consent of every individual, made a community, they have thereby made that community one body, with a power to act as one body, which is only by the will and determination of the majority.”

aristocrats, the legal structures that maintained that concentrated property ownership, the legal restrictions on property ownership faced by certain non-aristocrats of society, as well as the practical obstacles to property ownership faced by the emerging non-aristocratic.

As the earlier examples illustrate, the legal privileges were the exclusive property deals which provided aristocrats with property in return for some vague commitment to develop it and provide a share the future wealth with the monarchy. Once the practice of giving property to encourage development was expanded to all citizens, it could be argued that this was a clear indication of an evolution away from the aristocratic property stage. The legal structures that maintained aristocratic property stage included the special tax dispensations, the favouritism provided to aristocrats by the court in property disputes and the inheritance practices regarding aristocratic property called primogeniture. Of these legal structures the one that had the greater practical impact had to be the practice of primogeniture.

Primogeniture is a system of inheritance commenced in the middle ages, where all property is handed down to the first-born, usually a first-born son. The aristocracy adopted this practice and laws as a means to prevent the splitting of estates, titles and privileges that went with them. Not only did this prevent the splitting of estates in the initial inheritance process, this same system often prevented subsequent disposal of property by requiring the beneficiary to ensure that he passed on the same sized estate to his eldest child. All this meant that the property remained firmly entrenched in the hands of one aristocratic owner for centuries. Adam Smith¹²⁵⁵ explained the rationale behind primogeniture as follows:

'When land was considered as the means, not of subsistence merely, but of power and protection, it was thought better that it should descend undivided to one. In those disorderly times, every great landlord was a sort of petty prince. His tenants were his subjects. He was their judge, and in some respects their legislator in peace and their leader in war. He made war according to his own discretion, frequently against his neighbours, and sometimes against his sovereign. The security of a landed estate, therefore, the protection which its owner could afford to those who dwelt on it, depended upon its greatness. To divide it was to ruin it, and to expose every part of it to be oppressed and swallowed up by the incursions of its neighbours. The law of primogeniture, therefore, came to take place, not immediately indeed, but in process of time, in the succession of landed estates, for the same reason that it has generally taken place in that of monarchies, though not always at their first institution.'¹²⁵⁶

The primogeniture system itself came under attack from several quarters in the Western world in the latter part of the eighteenth century as a result of a growing resistance against the privileges of the landed aristocracy and a desire to release land into the open market. It was first abolished in New England and then in the United States following the American Revolution. The French Revolution brought the system to a halt in France, and the Napoleonic Code, which specified minimal amounts of estates to be given to each child, prevented its resurrection. In England the British Parliament finally abolished the intergenerational mandatory primogeniture

¹²⁵⁵ Adam Smith was an 18th century Scottish social and economic philosopher.

¹²⁵⁶ Smith, Adam, *An Inquiry Into The Nature And Cause Of The Wealth Of Nations*, originally (London W. Strahan and T. Cadell, 1776), republished (Penn State Electronic Classics edition, 2005), p.312-313

in 1925,¹²⁵⁷ although even today it is still practiced on a voluntary basis. Only after these changes to inheritance rules were enacted can it truly be said the legal structure designed to maintain aristocratic property came to an end.

With respect to the legal restrictions these involved specific restrictions against certain segments of society which prohibited them from participating in property ownership. As mentioned in the Irish example this could involve prohibiting Catholics from owning property.¹²⁵⁸ These artificial legal barriers to property ownership were easily be rectified by abolishing the laws that enacted and enforced them.

The practical obstacles however were more challenging. As long as the economic activity of a society was primarily base on agriculture and ownership of that land was concentrated and controlled by the aristocracy; there was little opportunity for others to participate in the economic development of that society. Further to the extent that the landed aristocracy were more concerned with maintaining their privileged position than with expanding economic opportunities for the society as a whole, there would be only be limited possibilities others to benefit from the what little economic development that existed. It was this general lack of economic development and the possibilities to participate in that economic development that was the greatest practical obstacles to the evolution from the aristocratic stage. However, that would all change with the growth of merchant activities, the coming of the industrial revolution and the vast quantities of property which became available in the New World.

14.3 THE UNIVERSAL PROPERTY PHASE

The universal property phase is the last evolutionary phase on the property continuum. This phase was only possible after the creation and adoption (evolution) of legally protected private property rights that took place under the previous noble and aristocratic property stages.¹²⁵⁹ What differentiates the universal property phase from the final stages of the concentrated property phase is that in this phase it became legal and practical possibility of all individuals in society to own property.¹²⁶⁰ The key conditions that made this evolution possible were changes in the law which recognised the right of all members of society to participate in property ownership, a change in the availability of property, as well as the creation of private resources sufficient to allow individual property acquisition.

The first of these conditions was driven by the political change that recognised the equality of individual in society and therefore the required the provision of equal property rights under the law. This political change was most clearly demonstrated in the American and French

¹²⁵⁷ The Law of Property Act (1925), sec 161 Abolition of the double possibility rule. "The rule of law prohibiting the limitation, after a life interest to an unborn person, of an interest in land to the unborn child or other issue of an unborn person is hereby abolished, but without prejudice to any other rule relating to perpetuities."

¹²⁵⁸ Prohibitions on Jewish property ownership could provide other examples.

¹²⁵⁹ It should be noted that private property rights were in the process of evolving during the early common property phase but that evolutionary process was interrupted by the concentrated property phase. As such while the noble and aristocratic property stages certainly do deserve recognition for creating and adopting private property rights, that recognition needs to be tempered with an additional recognition that the concentration of property ownership under the concentrated property phase in many ways represented an unnecessary, counterproductive detour in the evolutionary process.

¹²⁶⁰ It should be noted that such a differentiation does not require the additional conditions that all individuals own property, nor that property ownership be evenly distributed amongst those that do own property. All that is required is that all individuals in society are allowed to own property and they all have a realistic possibility of acquiring it.

revolutions, both of which sought to overthrow aristocratic government authority and the aristocratic property structures that supported them. In America this meant rejecting the aristocratic rule of England and its imposition of unjust taxes and trade policies on American colonies by fighting for independence. In France this meant eliminating feudal, aristocratic and religious privileges by eliminating the entire ruling class. In both cases the new constitutional foundations included a recognition of obligation of government to protect the right of all citizen to private property. In America this protection was enacted under "The Bill of Rights"¹²⁶¹ and in France in the "Declaration of the Rights of Man and of the Citizen".¹²⁶² The property rights included in these foundational liberal documents being spread to other societies over time.

As far as availability of property was concerned, there was of course a dramatic increase in traditional real property that became available in with the discovery of the Americas,¹²⁶³ however the more significant change in the availability of property came from the development of new forms of commercial property resulting from both trade and industrial development. While the expansion of trade related properties continued its rapid expansion which began at the end of the previous stage, it was the explosion of new forms of property resulting from the industrial revolution that represented the most significant increase in available property. Indeed, so dramatic was the increase in industrial property, that it forced a dramatic redefinition of the very notion of property. No longer was property primarily the physical land used for agriculture and mining, but instead it became any assets that were capable of generating income or providing other benefits for its owners.

Of course, it was not only the dramatic expansion of new commercial property that was significant. Of at least equal significance was that fact that this property was to a large extent created and owned by people that did not belong to the traditional aristocratic class. The significance of the more pluralistic property ownership participation cannot be over emphasised. Obviously, it was very significant from the practical prospective of providing non-aristocrats with the resources to participate in property ownership, while raising the productivity and welfare of society in general. However, the perhaps the most important significance was that it demonstrated the unrecognised and underutilized capability of ordinary citizen. It has to be remembered that the entire concentrated property phase had as its foundations, the concept that only the elite were capable of managing property productively. Once the dynamic entrepreneurial energy of ordinary people was released from the constraints of the privileged property rights, the myth of aristocratic superiority was shattered. This change in perspective was in essence an act of creative destruction, forever eliminating the possibility of returning to the old concentrated property stages.

Central to this new phase was a change in the underlying justification of property rights. This justification came from the nothing less than the capitalistic market ideas that was to revolutionize commerce in societies that adopted it. Under the capitalist system the justification for property rights became one of "economic efficiency" and it is this new justification that

¹²⁶¹ American Bill of Rights, Amendment V: "No person shall... be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation."

¹²⁶² Déclaration des droits de l'Homme et du Citoyen, Article 17, translated : "Since property is an inviolable and sacred right, no one shall be deprived thereof except where public necessity, legally determined, shall clearly demand it, and then only on condition that the owner shall have been previously and equitably indemnified."

¹²⁶³ Another source of available property had to do with the Protestant Reformation that resulted in property being appropriated from the Catholic church which were often sold to finance military expenditure of the Protestant monarchy. In England this process has been described as the "Dissolution of the Monasteries".

became the corner stone of all the various stages in the universal phase. The difference in the various stages representing little more than the difference on how best to achieve this economic efficiency. Because this justification was interpreted differently in the various stages that make up the universal property phase it only makes sense to explain the nuances of the justification in the actual stages.

As to the actual stages it should be mentioned at the outset that in essence there were really only two stages in this phase, the "free market" stage and the "regulated market" stage. However, because regulated market stages evolved over time the regulated stage will be divided in sub-stages that will be represented as separate stages in order to facilitate a better understanding of their implication for property rights. Using this form of categorisation, it is possible to derive the following stages in the universal property phase.

The first stage of the universal property phase can be described as the free market property stage. It can be described as the free market stage because it was based on rigid concepts of the free market which were adopted in early capitalistic models. These concepts basically allowed property owners absolute authority over their properties in the belief that such absolute rights would ensure they had both the tools and incentive to maximum economic efficiency. From historical prospective this stage probably started sometime around the beginning of the industrial revolution although it could be argued that it really began after Adam Smith penned his revolutionary works on the *Wealth of Nations*.¹²⁶⁴ It is during this stage of the universal property phase, that property owners have the greatest flexibility of do whatever they want with their property regardless of the consequence for other members of society. The end of this stage can be reliably identified as happening in the fall of 1929 with the stock market crash that originated in America and quickly spread to almost every country in the world, resulting in the Great Depression. At the time it was thought the crash and consequent depression were a direct result of an over reliance on free markets forces and it was that belief resulted in the end of the free market property stage.

What followed the free market property stage were a series of three regulated property stages, with incrementally decreasing levels of regulation. The first regulated property stage can be defined as a "directed property" stage. Under this stage governments took a much more direct and active role in management of property. While the catalysts for this stage were the economic failures that resulted from the free market stage, there was also a new economic theory that provided its inspiration and justification. Because this new theory has been primarily attributed to John Maynard Keynes¹²⁶⁵ it is usually referred to as Keynesian Economics. The just of Keynes economic theory was that by using technical analysis it was possible to identify business cycles, which the government could mitigate through the use of fiscal and monetary measures, thereby avoiding recessions and depressions.¹²⁶⁶

Inherent in this theory was the notion that government was a better director of macroeconomic affairs than the private markets. A notion that was later distorted into one that suggested that government could also be a better director of micro economic affairs. Specifically, that government had an obligation to direct the affairs of industries critical to economic efficiency. In the extreme this meant the nationalization of industries, but other more

¹²⁶⁴ Smith, *Wealth of Nations*

¹²⁶⁵ John Maynard Keynes was an early 20th British economist.

¹²⁶⁶ John Maynard Keynes, *The General Theory of Employment, Interest and Money* (London, Palgrave Macmillan, 1936)

moderate measures included things like price controls, and production quotas. In order to facilitate these micro economic controls numerous commissions or committees were established run by a bureaucracy of public servants.

The problem with this stage was that it turned out that this government bureaucracy was less capable of managing industries than they thought they were. A point which had been claimed and promoted by another prominent economist of the time called, Friedrich August Hayek.¹²⁶⁷ While the challenges to economic efficiency of stage was the primary reason for the evolution to a lower level of regulation, another reason was the fear that this form of regulation would inevitably lead to Fascism or Communism, was also a significant factor.

The next stage on the evolutionary continuum saw a lessening of government regulations which can best be described as switching regulatory practices from; telling property owners what to do, to telling property owners what they could not do. It is because of this change in regulatory practices, that this stage can be defined as the "restricted property" stage. From a property prospective this stage is notable in that it advanced the concept of property ownership representing a bundle of rights.¹²⁶⁸ This conception reframed the dynamics of government intervention in property from one of violating property right, to one of rearranging or redefining the bundle. In this stage a major part of the regulatory restrictions involved new competition rules, although there were also significant increases in regulatory restriction other areas like; health and safety and the environmental concern. These restrictions formed what has been described as black letter law, and from a jurisprudence prospective it was the letter of this law became the dominate factor in determining ownership rights. While restrictions might have been compulsory, if any right was not restricted that right still remained within the absolute dominion of the property owner. In the first half of this stage the number and scope of restrictions was expanded as regulators sought to correct perceived market failures as they arose. However, in the second half of this stage the number of restrictions declined as under certain circumstances those same black letter restrictions were shown to be economically inefficient. It was the eventual demise of these black letter restrictions that marked the end of the restricted property stage and the evolution to a new stage.

The next stage on the property continuum can be defined as the "supervised property" stage. This stage was notable by the aggressive attacks that were made on regulations and specifically "per se" regulations. The proposed replacement being government supervision and action only against abuses which were determined according to the "rule of reason". To the extent that the proponents of these attacks were un-biased supporters of a free market ideology, it was in many ways represented a revival of the free market stage which had existed earlier. There were two reasons why this revival was possible.

The first was that fifty years had elapsed since the end of the last free market stage and there was a new generation who too far removed from the great depression to recognise the dire consequences free market abuses can have on a society. Second there can be little question that during the restrictive stage regulators and their proponents had overextended their reach and were attempting to regulate too many aspects of the economy with rules which were too rigid. The greatest overreach being evident in competition law where they were using per se rules;

¹²⁶⁷ Friedrich August Hayek, was an Austrian economist and philosopher who provided the intellectual arguments for the Chicago School of Economics which is known for its free market advocacy.

¹²⁶⁸ Edward L. Rubin, *Due Process and the Administrative State*, 72 CAL. L. REV. 1044, 1086 (1984) (noting that "property is simply a label for whatever 'bundle of sticks' the individual has been granted.")

which automatically deemed unlawful certain activities regardless of the fact that in certain circumstances these actions had little anti-competitive effect. It was this specific incongruity that the neo-classical free market proponents used to discredit, not just competition regulations, but all regulations.

As mentioned the success of these attacks led to the replacement of "per se" rules with the "rule of reason", which in and of itself can be considered a good thing. For rather than declaring a whole category of activities as unlawful, each individual case should have been judged on its own merit. However, problem was that at this stage did not change competition law, it eviscerated it without allowing other safeguards to be instituted in other bodies of law. Which to a large extent converted this supervised stage into an "unsupervised property" stage. For while this allowed companies to become more profitable, it also produced many of the same negative by-products which were experienced in the previous free market stage. Specifically, it created entities which were too big to fail and dramatically increased income inequality. The net result of this stage, as could be expected, was the massive recession which occurred in 2008. While it appears that the worse of that recession has been overcome, it did prompt a revaluation of neo-classical ideology which is yet to be acted upon. If and when it is acted upon it will likely mean the end of the supervised stage.

Assuming that this (un)supervised stage comes to an end it may be replaced by a stage based not on increased government regulation, but on respect for the property rights of others. which will personify the Latin maxim "sic utere tuo ut alienum non laedas" (Don't use your property to harm the property of others). If this stage does develop the most appropriate name for it will be the "correlated rights property" stage.

14.3.1 Free Market Stage

Whereas under the previous stages, property ownership was largely defined by ownership of land, under this stage new forms of property became the dominate form of wealth. The first new form of property being the trading houses that were able to provide their owners with profits from trading activities and second new form of property being factories that provided their owners with profits from manufacturing operations. This represented a dramatic and significant shift in the nature of property which involved an equally dramatic shift in justification. There was however one aspect of the nature of property that did not change with the evolution of this stage. This was the absolute nature of property rights that was established in the aristocratic property stage and subsequently entrenched during the free market stage.

The establishment of absolute property rights during the aristocratic property stage can be seen most clearly in the enclosure example which was presented. Whereas under previous stages the owners of property were bound by divine social convention to look out for the welfare of their tenants and servants, during the aristocratic property stage these conventions were abandoned. This shift towards absolute property rights was made by the possible by the adoption of the natural right justification. Whereas previous justification of divine rights included an inherent moral obligation to look after the welfare of the poor, this new natural right justification contained no such obligation.

To the extent that natural rights justification implied any moral requirements it was to ensure that the property was to be used to advance the political and economic standing of the state. That such a requirement benefited the naked self-interest of the property owners did not

go un-noticed and resulted in a new justification for property rights. Under this new justification, the cause and effect of this observation were simply inverted. Rather than self-interest being the natural outcome of serving the national interests, self-interest was portrayed as serving the national interest. The most important difference of new justification was that; the former implied that the state should play a centralized role in property matters, whereas the later assumed that there was no need for this centralized role. The absolute right of property owners being common to both justifications.

This new justification was initially enunciated by the father of modern economics, Adam Smith in his "Inquiry into the Nature and Wealth of Nations"¹²⁶⁹ which was published in 1776, the year of American independence. In this work Smith explains how the welfare of a nation is best advanced by allowing the free market to determine optimal levels of production and consumptions of goods. The most famous concept included in this, and his earlier works, was the idea of an "invisible hand" which is interpreted as a free market providing the self-regulating measures necessary to guide the markets towards ever increasing prosperity. Specifically, the theory of the invisible hand suggests that that if consumers are allowed to choose freely what to buy and producers are allowed to choose freely what to sell and how to produce it, the market will settle on a product distribution and prices that are beneficial to all the individual members of a community, and hence to the community as a whole. This reasoning being articulated by Smith in his most famous quote;

"Whoever offers to another a bargain of any kind, proposes to do this. Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantage"¹²⁷⁰

Smith uses the actual term invisible hand in a later quote when he wrote:

"As every individual, therefore, endeavours as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by *an invisible hand* to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good. It is an affectation, indeed, not very common among

¹²⁶⁹ Smith, *Wealth of Nations*

¹²⁷⁰ *Id.* Book I, Chapter II, 19

merchants, and very few words need be employed in dissuading them from it.” [Italic Added]¹²⁷¹

According to this theory because the butcher, the brewer and the baker have to provide their goods and services in a free market, they will have to produce them in an efficient manner and sell them at a fair price, otherwise their customers will buy their products from their competitors who provide the same products at better prices either because they produce them more efficiently and/or price them more competitively. Further because these competitors are constantly competing for customers they will continuously seek more efficient methods of producing their products which will result in better prices for consumers therefore benefiting the entire community. Finally, because the most efficient commercial enterprises will earn the highest returns for their owner’s investors, they will provide them with necessary financing to enable further efficiencies. This dynamic and automatic market adjustment power representing the invisible hand of capitalism.¹²⁷²

While the theory of an invisible hand represented the core of justification for free markets and it should be noted that Smith was not without concerns about viability. Particularly he was concerned about the potential power of market participants to avoid the free market through collusion and the ability of government to warp the market through unfair regulation. With respect to the market collusion he warned;

“People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices. It is impossible indeed to prevent such meetings, by any law which either could be executed, or would be consistent with liberty or justice. But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies; much less to render them necessary.”¹²⁷³

Included in this quote is an expression of the inability of government to prevent market collusion and a hint of its tendency to exacerbate it. These sentiments toward government regulation were expanded in his specific quotes on regulation which were;

“The proposal of any new law or regulation of commerce which comes from this order, ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous,

¹²⁷¹ *Id.*: Book IV, Chapter II, 488-489

¹²⁷² Paradoxically this interpretation of Adam Smith work is actually a more humane interpretation of the invisible hand than that proposed by Smith in his earlier work when he explained that it was out necessity that the rich were reluctantly obliged to share the bounty of their estates with their servants, simply to enable them to survive. Theory of Moral Sentiments (1759) Part IV, Chapter 1, “The proud and unfeeling landlord views his extensive fields, and without a thought for the wants of his brethren, in imagination consumes himself the whole harvest...[Yet] the capacity of his stomach bears no proportion to the immensity of his desires... the rest he will be obliged to distribute among those, who prepare, in the nicest manner, that little which he himself makes use of, among those who fit up the palace in which this little is to be consumed, among those who provide and keep in order all the different baubles and trinkets which are employed in the economy of greatness; all of whom thus derive from his luxury and caprice, that share of the necessities of life, which they would in vain have expected from his humanity or his justice...The rich...are led by an invisible hand to make nearly the same distribution of the necessities of life, which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus without intending it, without knowing it, advance the interest of the society.”

¹²⁷³ *Id.*: Book I, Chapter X, Part II, 152

but with the most suspicious attention. It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it,"¹²⁷⁴ and "To give the monopoly of the home-market to the produce of domestic industry, in any particular art or manufacture, is in some measure to direct private people in what manner they ought to employ their capitals, and must, in almost all cases, be either a useless or a hurtful regulation."¹²⁷⁵

That Smith should be predisposed to a negative view government regulation should not be surprising given the blatant biases shown by government interference during the previous aristocratic property stage. And there can be little dispute that the initial removal of privileges created through governmental interference in many ways did open up the markets and allow for dramatic increases in efficiency of producers and markets in general. However, this one-dimensional preconception of governmental interference had another unintended consequence. For while the advocates of free market may have believed that the invisible hand would produce the best outcomes, they failed to recognise that the absence of government involvement in the markets, do not necessarily result in free markets. Indeed, it was the very fear of government involvement in markets that restricted the ability of government to protect employees, consumers and investors from markets abuses that resulted in restricted markets that were anything but free. The restrictions being imposed not by government regulations; but by powerful property owners that sought to control the markets for solely for their own benefit and to the detriment of society as a whole.

It is the understanding of this dynamic that not only explains the rise of the free market property stage, but its decline. For although the introduction of the free market economy facilitated a huge increase in the productivity, it was the ever-increasing abuses of the free market system for purpose of diverting those same benefits in to the possession of a few powerful property owners that resulted in its ultimate demise.

There are innumerable examples which illustrates this paradox, not the least of which would be the operations of the industrial revolution factories that abused their employees so badly that it lead to calls for a revolution that would abolish private property all together.¹²⁷⁶ However perhaps the most interesting and educative example of the advantages and abuses of the free market property can be found through an examination of the history of the railway industry in America during the free market stage.

Before getting into operational advantages and abuse there is a major qualification regarding American railway networks being represented as free market property that must be conceded. The qualifications have to do with the initial foundations of the railway networks. While these railway networks were certainly established and operated as a private enterprise, they were created in the same way that the Charter companies of the aristocratic stage were created. This is particularly true with respect to the first two transcontinental railways companies that constructed their railway networks 1864 and 1873. Like the old Charter companies; the Union Pacific Railroad Company and Central Pacific Railroad Company (later renamed the Southern Pacific Railroad Company) were created as a direct result of property

¹²⁷⁴*Id.*; Book I, Chapter XI, Part III, 292

¹²⁷⁵*Id.*; Book IV, Chapter II, 489

¹²⁷⁶ Karl Marx and Friedrich Engels, *The Communist Manifesto* (London, Communist League 1848)

grants made by the Government under a series of Act called Pacific Railway Acts.¹²⁷⁷ Under these Acts the companies were granted tracks land on which to build the actual railways, government funding to finance their construction and additional land which they could sell to repay the government funding.

The land grants themselves were enormous, amounting to some 21 million acres and at the time had an estimated pre-construction value of 40 million dollars.¹²⁷⁸ The biggest proportion of this land was not the actual land on which the railroad would be constructed, but rather the land adjacent to the railroad, that would ultimately be sold to repay the government financing. This adjacent land worked out to about 10 square miles of public land surrounding every mile track that they constructed.

The financing was provided through 30-year government financed bonds which eventually totalled over 90 million dollars.¹²⁷⁹ These bonds were secured by a lien upon the railroads and all their fixtures, with the funds being provided to the companies on a per mile of tracked grade completed. This would represent a relatively straight forward banking transaction, but for the fact that the companies themselves were not required to provide hardly any capital.¹²⁸⁰ This meant that the government was initially the sole financier of the companies and the 6% interest that was charged to the companies represented tremendous bargain for the owners. Particularly when compared to the 24% interest local banks in San Francisco were charging at for loans at the same time.

The governments stated rational for providing these huge land grants and cheap financing to the companies were many. First, they argued that the construction of the transcontinental railway was of critical importance for unifying the country. Second, they said that it would assist in the transfer of new immigrants, which would in turn allow for the development of the interior's agricultural and other natural resources. Finally, they proposed that those same natural resources would be brought to market more cheaply and efficiently on the newly constructed lines.

These sentiments were articulated by numerous Senators during the course of discussion on the Pacific Railway Acts. For example, Senator Henry Wilson of Massachusetts is reported to have said:

'I give no grudging vote in giving away either money or land. I would sink \$100,000,000 to build the road and do it most cheerfully, and think I had done great thing for my country. What are \$75,000,000 or 100,000,000 in opening a railroad across regions of this continent, that shall connect the people of the Atlantic and the Pacific, and bind us together.... Nothing! As to the lands, I don't begrudge them".¹²⁸¹

To the extent that this initial government support resulted in the rapid construction of the two transcontinental railroad it can and has been portrayed a success. Within ten years the railroad networks were in place that were capable of doing all that the politician had desired. The country was united from coast to coast by a transportation network, immigration into the interior could be accelerated, the interior resources developed, and products more easily be brought to the market. All of which should have been a tremendous benefit to the entire nation and all its people.

¹²⁷⁷ The Pacific Railroad Acts were a series of which started with: The Pacific Railroad Act of 1862 (12 Stat. 489) and was subsequently modified, expanded, or repealed by: The Pacific Railroad Act of 1863 (12 Stat. 807), Pacific Railroad Act of 1864 (13 Stat. 356), Pacific Railroad Act of 1865 (13 Stat. 504), and Pacific Railroad Act of 1866 (14 Stat. 66).

¹²⁷⁸ Roughly equivalent to 800 million dollars in 2010 currency adjusted for inflation.

¹²⁷⁹ Roughly equivalent to 1.8 billion dollars in 2010 currency adjusted for inflation

¹²⁸⁰ In the case of Southern Pacific, the owners invested \$200,000 or .0006% of the initial capital, most of which was used to lobby Congress in order to secure that Charter for the Company.

¹²⁸¹ Matthew Josephson, *The Robber Barons*, (Mariner Books, 1967) 78.

The problem with this assessment is that the owners of the railroads had a very different idea about who should the benefit from the railroads; and it is because those owners adhered so strongly the underlying principle inherent in free market property stage that the railways represent a quintessence example of that stage. The free market principle being adhered to suggested that individuals were free to pursue their naked self-interest, because doing so would ultimately be in the public interest. To the railway owners this meant that the railway properties should be primarily be utilized to advance their own self-interests and they ruthlessly maintained that position in every aspect of their business; from the initial construction, through the financing and everyday operation of the railways. So, despite the largess of the government in helping to build the railroads, the railroad owners under the guise of the free market system sought, (and to a large extent succeeded) in securing the bulk of the benefits for themselves. While the method used in the various aspects of their business changed, each serve as an example of how self-interest were not always in the public interest, and further prove that the assumption that any behaviour not in the public interest would be automatically rejected by the market was mistaken. Given this is such a clear contradiction of the primary free market principle, it is worth going into actual specifics as to the owner's behaviour in each aspect of the railroad business.

With respect to the first aspect of the business which was the construction of the railway line; there were a number of business practices were beneficial the owner's self-interest and detrimental to public interest. Of these there were three that stand out. First there was the practice of setting up separate construction companies owned by the directors of the railroad companies to build the railways. The second had to do with the employment policies of the railroad construction companies. And the third had to do with practices related to determining the location of tracks and train stations along the intended path of the railways.

The insider dealing that resulted in the setting up of separate construction companies owned by the directors of the company was beneficial to the self-interests of the directors; because it allowed them to amass huge personal fortunes by overcharging the railway companies for their construction work. For example, in the case of the Union Pacific the construction of the railway was contracted out at a rate that rose from \$80,000 to \$90,000 and \$96,000 a mile, so that the total construction cost was \$94,000,000. This despite the fact that the actual construction cost was estimated at below \$30,000 a mile; which would result in a total construction cost of some \$44,000,000. This implies that the owners of the construction company made around \$50,000,000 on the construction contract.¹²⁸² This over charging of by the construction companies was detrimental to the public interest because those cost were paid; first by the government through the construction bond program, then by shareholders through the issuance of additional shares in the railway company and ultimately to the public through higher shipping charges.

With respect to the employment policies of the railroad construction companies. It should be remembered that a huge percentage of the workers that were hired to build the railroads were Chinese colliers that were willing to work for a fraction of the wages of local workers. This benefited the self-interest of the construction company owners because it kept down actual construction cost, enabling them to make a greater profit on their construction activities. This harmed the public interest in a more general sense, because it deprived the local community of

¹²⁸² *Id.* 94.

higher paying jobs that would have contributed to their economic activity. Not only did it dampen demand for goods it also provided an obstacle to higher wages in other sectors of the economy, because it forced greater completion for jobs in those sectors.

The methods for deciding the route of the tracks and location of the stations on the intended path of the railroad was expected to be done on the basis of simply finding the shortest and most easily constructed route and placing the stations in all the populated communities on that route., However this is not what happened. Instead the railway companies decided the route, and station locations based on the subsidies that the communities were prepared to pay to the railway for the privilege of having the railway run through their town. San Francisco for example was forced to contribute \$3 million to Central Pacific even though it was the largest town on the Pacific Coast and the obvious terminus for the railroad.¹²⁸³ While the threat of bypass may not have been that great for San Francisco, for little towns along the path it was very real and much more ominous. For example, the small town of Paradise, in Stanislaus County became a ghost town virtually overnight when Central Pacific located the track and station four miles outside of its border, after it refused to pay a sufficient subsidy to the railway company.¹²⁸⁴ This practice of extorting subsidies from the towns along the path was good for the interests of the company directors because it meant that there was more money to pay their inflated construction charges. It was bad for the public good because in effect the public were paying twice for the railway. First in the form of the initial land grants provided under the Charter and second through community subsidies. While the cost of the first two practices were to remain hidden from view during the actual construction phase, the demands for subsidies were not. It is therefore not surprising that this practice was the most contentious of the construction phase. However contentious the practice; it was still utilized because there were no market forces to prevent it. In fact, this practice was based on the market principle of providing the product or service to those that valued it the most, a principle that is best articulated in the sentiment of charging “whatever the market will bear”.

The reliance on market forces to adopt contentious practices did not end with the construction phase, they were used even more ruthlessly in the actual operation of the railway. This ruthlessness being embodied in the principle of basing transportation charges on what the maximum price that the market would bear rather than on the actual cost of providing the transportation service. Given that the railway networks had a monopoly on transportation service for decades after their completion, what the market would bear turned out to be much more than anyone had anticipated. In simple terms the price that the market would bear was the difference between the cost of production for the resource and its value once the product was delivered to the market. By using this pricing principle, the railway companies were effectively appropriating the potential profits of their customers for themselves.

Not the least of those which would be burdened by the highest price the market would bear, were the farmers of America. It has been estimated that the farming population increase in numbers from 10.0 million in 1865, to 22.0 million in 1880, with most of these new farmers immigrating to the interior of the country on the same trains that would be used to transport their agricultural goods to the markets. For the railway companies, the price that these new farmers would bare was anything below the price that it would cost to take their products to

¹²⁸³ *Id.* 83.

¹²⁸⁴ *Id.* 85

the market using alternative means of transportation. The obvious alternative being horse drawn wagons. To the extent that farmers were able to make a profit on their production using the alternative transport methods these somewhat lower charges were initially welcomed by the farmers. What the farmers did not know is that the actual cost to the railway of taking their products to the market was substantially lower than any other alternative because the railway network was a much more efficient means of transportation. Another thing that the farmers did not realize was that as their numbers grew the price of the goods they produced would fall; because of the increase in supply was not matched by an equivalent increase in demand. As such when the prices fell and while transportation charges were held constant, this created an unbearable price squeeze for the farmers. A price squeeze which would not have happened; if the railway companies had honoured their obligations to provide honest cost-based pricing.

It would not have happened under an honest cost-based pricing formula because the variable cost of shipping an additional unit of agricultural product was practically nothing for the railway companies. All it required was connecting an additional grain car to a train that was already providing the service. What this meant is that all other fixed costs could be divided between a larger number of units, therefore reducing the average combine fixed and variable costs of the individual units of goods being transported. So, to the extent that the railway companies maintained a constant tariff for agricultural transport during a period when these huge volume increase reduced their marginal operating cost this can only be viewed as excessive, if not extortionate pricing on the part of the railway companies.

However even the extortionate transportation charges were sometimes not sufficient for the railway directors. In some cases, the director's used the very access to the networks as a means of gaining control of the resources that the networks were supposed to transport to the market. This type of insider dealing being even more insidious, than the setting up of independent construction companies, because it involved the depriving external property owners of their property rights, on top of depriving their shareholders of their rightful returns. An excellent example to this behaviour involved a company called Pennsylvania Blue Stone Company and the Erie Railroad.

The Pennsylvania Blue Stone Company was one of a number of successful mining company that had a quarry in Pike County, Pennsylvania which produced building materials for the distribution throughout the states. As can be imagined a major operational cost of each of these company was transporting their products to market. When the Erie Railway company built a railway line to serve Pike County, it can be assumed that all local business anticipated that they would now have a cheaper method of getting their goods to market. However, this was not to be the case for the Pennsylvania Blue Stone company. Initially the Erie railway refused to carry the company's products to New York at any price. What the railway company wanted in return for transporting the company's products and what they eventually received was a share of the company's profits in the shape of a partnership interest. While this initial demand clearly represents a blatant abuse of monopoly power, this was only the beginning of the abuse related to this transaction. For as a result of now having a partnership interest in the Pennsylvania Blue Stone company, the Erie railway refused to carry the stone of any other producer in the region. Needless to say, this railway embargo provided Pennsylvania Blue Stone with a significant advantage over its competitors.¹²⁸⁵

¹²⁸⁵ *Id.* 136

It should be noted that both the insider dealing, and the pricing principle adopted by the directors was in direct contradiction to both the spirit and the operating principles anticipated under the Pacific Railway Act. Under the act the railway companies were to base their charges on the costs of providing the service and earn no more than a 10% profit from those services. Repayment of the government financing was to be included in the cost calculation, but not to exceed more than 5% of the total charges per annum. The clearly stated objective of the act being to promote the public interest and not the private interests of the directors and shareholders.¹²⁸⁶ The method that the directors of the railway companies used to get around this obligation was simple, they just inflated their costs. For the most part this was done by overcharging on the construction cost, which as detailed earlier would eventually have to be paid by the consumers. But it was also done with respect to the actual operating cost. This was done through extravagant salaries and insider dealing which for example required the railway companies to purchase overpriced transportation equipment from companies owned by the directors.

This inflation of the construction and operating cost were of course part of the financial activities of the railway companies. However, the insider dealing that created this inflation was not the only financial activity that was to serve the self-interest of the directors, which were to the detriment of public interest. Of equal significance was the insider trading that they participated in with respect to the shares of the companies, the bribes that they paid to public officials in order to facilitate their disproportionately self-enriching activities and the fraudulent accounting they use to cover it all up.

The initial instances of insider trading, were really insider dealing as they involved directors being allowed to purchase shares and bonds at par value, that they could sell on the open market at a huge profit. More traditional forms of insider trading involved the actions of selling shares when in possession of secret inside news that is bad for a company and buying shares when the opposite was true. The most blatant practitioner of this was probably Thomas C. Durant, the vice president and general manager of Union Pacific. Durant's insider trading involved, running up the value and selling of his stock in the Mississippi and Missouri Railroad by promoting the idea that it was going to connect the Union Pacific, while at the same time secretly buying competing rail line stock that he knew was going to be the real partner in Union Pacific's transcontinental plans. While these two insider transactions involved shares in external companies, the directors also had no hesitation in using insider information to their benefit when trading on their own companies shares. The most tangible evidence of this practice being the surprising low levels of share ownership that the directors of railway companies tended to have, whenever the companies got into financial trouble.

Durant was also a leading participant involved in the bribery of public official. He did this through the company, "Crédit Mobilier of America". This was a company that was set up to be

¹²⁸⁶ Pacific Railway Act, (1862) Sec. 18. "And be it further enacted, That whenever it appears that the , net earnings of the entire road and telegraph, including the amount allowed for services rendered for the United States, after deducting all, expenditures, including repairs, and the furnishing, running, and managing of said road, shall exceed ten per centum upon its cost, exclusive of the five per centum to be paid to the United States, Congress may reduce the rates of fare thereon, if unreasonable in amount, and may fix and establish the same by law. And the better to accomplish the object of this act, namely, to promote the public interest and welfare by the construction of said railroad and telegraph line, and keeping the same in working order, and to secure to the government at all times (but particularly in time of war) the use and benefits of the same for postal, military and other purposes, Congress may, at any time, having due regard for the rights of said companies named herein, add to, alter, amend, or repeal this act."

the principal construction contractor and construction management firm for the Union Pacific. In 1867, Congressman Oakes Ames replaced Thomas C. Durant as head of Crédit Mobilier. After his appointment Ames offered other members of Congress shares of stock in Crédit Mobilier at a substantially discounted value rather than market value. In the eyes of the railroad barons this was a perfectly legitimate financial activity as it ensured the continued support of the government for their endeavours. This support being initially facilitated by greed on the part of the politicians and subsequently ensured through fear of exposure. One of the subtlest masters of this practice was another railway baron named Collis Huntington who would secure signed evidence, such as cancelled checks, to ensure in his own words that that the men involved were "ever afterwards my slaves"¹²⁸⁷.

Needless to say, that all the construction, operational and financial actions that disproportionately benefited the self-interests of the directors would be a problem for the directors if they became public. To avoid this happening much of it was hidden using what can only be described as questionable, if not fraudulent accounting practices. In the case of bribes paid to politicians and judges they were listed in the books of the railway companies as "General Expenses" or "Legal Expenses" or "Extra Legal Expenses". In the case of the independent construction companies, the invoices provided to the railway companies were intentionally vague and misleading. In the construction companies it can be assumed that the accounts were simply fabricated because there was no documentation to support the various expense claims made by the them. A fact that was not discovered until some 20 years after the fraud was perpetrated.

The reason that the any of the questionable self-enriching activities were ever investigated and confirmed is ironic, because it resulted from efforts to promote naked self-interest of another railway executive. The first step towards an investigation came when Henry Simpson McComb, a future executive of the Illinois Central Railroad, had a dispute with Congressman Ames over government support for his railway. Because Ames refused to grant the same support to Illinois Central that Pacific Railways enjoyed, McComb leaked a compromising letter to the newspaper detailing how the \$72 million in contracts had been given to Crédit Mobilier, really only cost \$53 million. This leak resulted in the so called Crédit Mobilier scandal, when it became known that several congressmen had shares in Crédit Mobilier. In addition to exposing the complicity of the politician, the scandal also brought to the attention of the public the precarious financial conditions of the actual railway companies. Once this condition was public, it caused the collapse in the price of railway stock which was in large part responsible for the panic of 1873. The depression that resulted from this panic which lasted for nine years was so severe, that it eventually forced the Government to establish a Federal Commission to investigate what had gone wrong.¹²⁸⁸

Under its charter the commission was empowered to;

'examine into the working and financial management of all of the railroads that have received aid from the Government in bonds; to ascertain whether they have observed all the obligations imposed upon them by the laws of the United States...and complied will all other obligations to the United States...also whether such system of constructive mileage is fair and usual, and in practical operations has resulted

¹²⁸⁷ The Robber Barons 355.

¹²⁸⁸ Act of Congress establishing The United States Pacific Railway Commission. (March 3, 1887)

adversely or otherwise to the aid roads and the interests of the United States...whether the proceeds of any trust funds or lands loaned, advanced or granted have been diverted from their lawful use¹²⁸⁹

Within a year the commission issued a nine-volume report on the activities of the railway companies. With respect to the financing affairs of the railway companies the commission concluded:

'The construction companies or inside combinations that built five of the six roads have destroyed or concealed their books ... and the Commission has been embarrassed in its work by the refusal or failure of the companies to produce the accounts relating to the actual cost of construction, or to exhibit any paper or documents that would enable the Commission to ascertain the truth as to this most important factor in the investigation. ...From the minutes and accounts of the railroad companies, and from fragmentary information gathered from various sources, it is disclosed that the officers of at least three of these companies made false statements under oath, in affidavits now on file in the Interior Department... The managers were acting as trustees of a national highway, and they cannot plead any lawful justification for making false affidavits, which state that \$97,098,690 of stock was actually paid for, when in fact less than two million had been so paid for.¹²⁹⁰

With respect to the relationship between the railways and the public the commission concluded:

'The original purpose of Congress, as set forth in the act of July 1862, in granting subsidies for the construction of the pacific Roads, was to promote public interest, and the companies were made trustees for that purpose; but the public interest has been subordinated by the companies to the shareholding interest, upon the claim that the stockholders owned the railroads and could manage their own business in their own way. Nearly every obligation which the corporations assumed under the law of the United States, or as common carriers, has been violated. Their management has been a national disgrace. Since the date of their inception they have been conducted upon a purely speculative basis. Their permanent prosperity has been lost sight of, while their managers greedily strove for temporary advantage. For fourteen years the Union Pacific was practically free from competition for a stretch of 1,800 miles across the continent....The aided companies combined with others to tax the communities which they served, and they forced the consuming classes in all sections of the country to contribute to the payment of interest and dividends upon factitious capital which they had created....They attempted to dictate the channels that trade should follow and fixed rates of transportation that were extortionate. They charged all that the traffic would bear, and appropriated a share of the profits of every industry by charging the greater part of production and the price of the article in the market. ... They favoured particular individuals and companies. They destroyed possible competitors, and they built up particular localities to the injury of other localities, until matters had reached

¹²⁸⁹ *Id.* Section 3

¹²⁹⁰ *Report of the U.S. Pacific Railway Commission*, (U.S. Congress, 1888) Extracts from Initial Comments

such a pass, that no man dared engage in any business in which transportation largely entered without first soliciting and obtaining the permission of a railroad manager. They departed from their legitimate sphere as common carriers and engaged in mining articles for transportation over their own lines. They exerted a terrorism over merchants and over communities, thus interfering with the lawful pursuits of the people. They participated in election contests. By secret cuts and violent and rapid fluctuations in rates they menaced business, paralysing capital, and retarding investment and development.”¹²⁹¹

By detailing the questionable business practices of insider dealing, insider trading, false accounting, bribery and abuse of monopoly power, the commission report highlighted the general lack of ethical business practices on the part to the railroad barons. In response to this questioning of their business ethics the railway barons basically suggested that there are no ethics in business, that the free market dictated that any behaviour which benefited their self-interest was inherently a good thing. Examples of this attitude can be found in an 1877 letter from Southern Pacific Director Huntington explaining why bribery of public officials was justified;

‘If you have to pay money to have the right thing done, it is only just and fair to do it ... If a man has the power to do great evil and won’t do right unless he is bribed to do it, I think the time spent will be gained when it is a man’s duty to go up and bribe the judge. A man that will cry out against them himself will also do these things himself. If there was none for it, I would not hesitate.’¹²⁹²

To be clear this attitude was not just idol philosophy on the part of Huntington, documentation proves that both he and his fellow directors were actively engaged in buying both political and judicial support as a standard business practice for the railway.¹²⁹³ This contempt for any moral or ethical restriction on their business activities was of course what allowed them to maximise their own self-interests, often to the detriment of public interest.

The net result of this free market behaviour was that; despite the intention that the railway networks were to serve the public good by providing the nation with an efficient, cost effect means of transportation, they were operated to disproportionately benefit of the railway company directors in particular and the railway company owners in general. The similarities between this behaviour and the behaviour of the robber barons on the Rhine is striking. For by taking their tributes large and small from all members of society, the railway barons rather than providing a backbone for independent economic development in America, actually became a barrier to independent economic development. This is not to say that there was no independent economic development during this period, but rather to say that the development that did occur often occurred in spite of the best efforts of the railway directors, and that had the directors not behaved in this manner independent economic development may have been much greater.

¹²⁹¹ Id. Section titled “Their Relations to the Public”

¹²⁹² Josephson *The Robber Barons*, 354

¹²⁹³ Id. 357 Letter from Huntington to a Lobbyist dated January 14, 1876 “I received your telegram that William B. Carr has had for his services \$60,000 S.P. bonds, then asking how much more I think his services are worth for the future.... In view of the many things we have now before Congress...it is very important that his friends in Washington should be with us, and if that could be brought about by paying Carr, \$10,000 to \$20,000 per year, I think we could afford to do it, but of course, not until he had controlled his friends. I would like to have you get a written proposition from Carr, in which he would agree to control his friends for a fixed sum, then send it to me.”

To the extent that the commission report described the very real harm done to the public interest it ought to have served as a cautionary tale illustrating the limitations of market discipline and the reality of market failure, when a lawless free market system was adopted. The problem was that even when some politicians tried to protect the public interest; they were often prevented from doing so by the judicial establishment that was either committed to or corrupted by the free market ideology and which used narrow interpretations of the laws to protect the railway companies. This can be seen in the initial judicial reaction the commission investigation and the general lack of judicial support for any legislative measures adopted to restrict the freedom of the railway conduct their affairs.

The initial judicial reaction to the commission involved a ninth circuit court decision restricting the commission ability to investigate any alleged wrong doing; by ruling that the commission had no right to have access to the railroad companies underlying documentation.¹²⁹⁴ Nor was this the first time that the judiciary protected the interests of the railway barons to the detriment of public interest. Even before the issuing of the report; public sentiment had changed with respect to the railways and public calls for regulation of the railway baron's behaviour were being heeded by the politician. In the 1870's a series of laws called the Granger laws were passed by various western State to regulate grain elevator and railway freight rate. In *Munn v Illinois*¹²⁹⁵ the Supreme Court in majority opinion upheld the right of the States to regulate the prices charged by a grain storage facility.¹²⁹⁶ However it quickly reversed itself in another case which involving regulating a railway company. In *Wabash v Illinois*¹²⁹⁷ the Supreme Court ruled that held that the States had no authority of regulate outside of their borders.¹²⁹⁸ In response to this decision the U.S. Congress passed the Interstate Commerce Act¹²⁹⁹ which required that the railway companies set interstate rates that were non-discriminatory, reasonable and just and made the setting of discriminatory, unjust and unreasonable interstate unlawful.¹³⁰⁰ This Act also set up a new federal committee, the Interstate Commerce Commission (ICC), to oversee these new laws.¹³⁰¹ However even this new interstate commission

¹²⁹⁴*The Penfield Company of California vs. Securities and Exchange Commission, U.S. Circuit Court at San Francisco August 29th, 1887*, "4. CONGRESS CANNOT EMPOWER a commission to investigate the private affairs, books and papers of the officers and employees of corporations indebted to the Government, as to their relations to other companies with which such corporations have had dealings, except so far as such officers and employees are willing to submit the same for inspection; and the investigation of the Pacific Railway Commission into the affairs of officers and employees of the Pacific Railway Companies under the Act of March 3, 1887 is limited to that extent."

¹²⁹⁵*Munn v. Illinois*, 94 U.S. 113 (1877)

¹²⁹⁶*Id.* Paragraph 1. "Under the powers inherent in every sovereignty, a government may regulate the conduct of its citizens toward each other, and, when necessary for the public good, the manner in which each shall use his own property."

¹²⁹⁷ *Wabash, St. Louis & Pacific Railway Company v. Illinois*, 118 U.S. 557 (1886)

¹²⁹⁸ *Id.* Paragraph (5) "Notwithstanding what is there said, this Court holds now, and has never consciously held otherwise, that a statute of a state, intended to regulate or to tax or to impose any other restriction upon the transmission of persons or property or telegraphic messages from one state to another, is not within that class of legislation which the states may enact in the absence of legislation by Congress, and that such statutes are void even as to that part of such transmission which may be within the state."

¹²⁹⁹ Interstate Commerce Act of 1887, Ch. 104, 24 Stat. 379.

¹³⁰⁰*Id.* Section 1 "All chargers made for any service rendered or to be rendered in the transportation of passengers or property as aforesaid, or in connection therewith, or for the receiving, delivering, storage, or handling of such property, shall be reasonable and just; and every unjust or unreasonable charge for such service is prohibited and declared unlawful."

¹³⁰¹The ISCC was not the first commission set up to regulate railway companies, there were several State based commissions that proceeded it, the most prominent of which was the Massachusetts Board of Railroad Commissioners which became a regulatory pioneer under the stewardship of Charles Francis Adams. Charles

was prevented from fulfilling its mandate by the courts. In the first instance the lower courts rejected the ICC complaints and eventually the Supreme Court neutered the ICC; by ruling it could only monitor the rates set by the railway companies for breaches of the Act and had no power to proscribe rates.¹³⁰² This ruling effectively confirmed the status of the ICC as a toothless bureaucracy, which the railway companies paid lip service to in their public rate setting, but ignored in their secret discounting operations.

Unsurprisingly as the competitive advantages became more obvious, other industrialist entered the railway industry in an effort to use those competitive advantages of owning a railway, to maximise the profits in their own industries. The most notable examples of which were Andrew Carnegie in the steel industry and John Rockefeller in the oil industry. It was the consolidation of the railway industries with other industries and the market power that it generated; which finally forced the government to come up with a more general restriction on free market property rights. That general restriction took the form of the Sherman Act,¹³⁰³ passed by the Congress in 1890, which was the first modern competition law passed by a democratic society. While this Act represented a huge milestone in restricting of free market property rights it was not passed without controversy. First there was the disputes in Congress over the passage of the bill and then there were dispute on the Supreme Court over its implementation. In both cases the ideological divide was substantial and remained unresolved for decades, splitting both the politicians and the judiciary into warring factions.

On one side were the free market proponents that advocated the idea that the freedom to contract was a fundamental right protected by the Fifth and Fourteenth Amendments guarantees of “life, liberty and property”. On the other side were the competitive market proponents that saw the concentrated economic power of the big trust as threatening the “industrial liberty” of the nation. This was not a dispute over capitalism per se, only the form of capitalism and existential threat that each side thought threatened their particular form.

As far as the free market proponent were concerned the market should almost always operate free from government interference and if that resulted in a concentration of industrial enterprise in the hands of a few individual, this by default, must be the way that the capitalistic market was supposed to operate. Their overall argument being bolstered by the technological and economic advances that had occurred under conditions of highly concentrated industrial power. For them any concentration was just a natural part of an industrial evolution which provided the economic advances that society sought, the products that consumer demands while at the same time avoiding ruinous competition. They thought the greatest threat to the market came from government interference; which they believed would ultimately result in government taking control of the market, if not private property. This was a perfectly understandable concern given that the previous property stage had involved a great deal of government control of the markets. This however was a backward-looking view; which was not capable of addressing the immediate concerns about the power of the new industrialists and the growing resentment towards their increased prosperity in times of great hardship for ordinary citizens.

Francis Adams was the great grandson of John Adams the second American President, Grandson of John Quincy Adams the sixth American President, and son of Charles Francis Adams Sr. a Civil War Diplomat.

¹³⁰² Interstate Commerce Commission v Cincinnati, N.O. & Texas Pacific Ry. Co., 167 U.S. 459 (1897)

¹³⁰³ The Sherman Antitrust Act (1890) 26 Stat 209

On the other side the competitive market proponents; thought that the market should provide an opportunity of for all citizens and that when private transactions prevented that possibility, the government needed to step in to prevent their exclusion. For them their greatest fear was that the defeated tyranny of the government, was being replace by a tyranny of industrialist. This sentiment being clearly articulated by original author of the bill, Senator Sherman when debate on it began:

'This bill, as I would have it, has for its single object to invoke the aid of the courts of the United States ...in dealing with combinations that affect injuriously the industrial liberty of the citizens ... It is the right of every man to work, labor, and produce in any lawful vocation ... This is industrial liberty and lies at the foundation of the equality of all rights and privileges ... The sole objective of ... [a trust] is to make competition impossible. It can control the market, raise and lower prices, as will best promote its selfish interest, reduce prices in a particular locality and break down competition and advance prices at will where competition does not exist ... The law of selfishness, uncontrolled by competition, compels it to disregard the interest of consumers.'" ¹³⁰⁴

It is a testament to the public support for the competitive market proponents, that after two long years of debate, the 1890 version of the bill was passed in both chambers without debate. However, this was only half the battle, once passage was achieved of the battle shifted into the hands of the federal judges and this was to proof a much more difficult battle for the competitive market proponent. One of the main difficulties faced by the competitive market proponents in getting the courts to implement the Sherman Act was the nature of its language. The language eventually adopted being simultaneously too strict and too vague. That the Act contained such difficult language was the result of the alterations done in the Committee of the Judiciary. As a result of these changes it could be argued that; while the competitive market proponents won the battle of passing the Act, they lost the war over its implementation, because of the language that was included.

Of particular concern was the exclusion of the language included in the initial version that sought to protect both the competitive market and consumers. The initial version of the Act introduced by Senator Sherman containing the following language:

'Sec. 1 That all arrangements, contracts, agreements, trusts, or combinations...made with a view, or which tend to prevent full and free competition... or which tend to advance the cost to the consumer ... are hereby declared ... are hereby declared to be against public policy, unlawful and void'"¹³⁰⁵

In the 1890 bill this was changed to:

"Sec. 1. Every contract, combination in the form of trust or other- wise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal ...

¹³⁰⁴ Rudolph J. R. Peritz, *Competition Policy in America 1888-1992: History, Rhetoric, Law* (Oxford University Press 1996) 14

¹³⁰⁵ *Id.* 13

Sec. 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce ..., shall be deemed guilty.¹³⁰⁶

By excluding Senator Sherman's language of "full and free competition" and "cost to the consumer" and replacing it with "contracts...in restraint of trade" and "monopolize, or attempt to monopolize trade" the Committee of the Judiciary both obfuscated the core purpose of the Act while making its literal implementation impossible.

It obfuscated the core purpose of the act by removing the goals of the Act; which was protection of the competitive market place and consumer protection and replacing them with a strict definition of the tactics to be used in the pursuit of those goals. This significance of this change was not lost on Senator Sherman who claimed that it would be:

'totally ineffective in dealing with combinations and Trusts. All corporations can ride through it or over it without fear of punishment or detection. ... if any relief is to be had it must be the result of ... the actions of the House, where amendments may be provided which will restore in substance the original design of the bill.'¹³⁰⁷

It made literal implementation impossible; because a literal reading of the Act would outlaw much more than price fixing cartels and attempted monopolisation by industrial giants. A literal interpretation of "any agreement in the restraint of trade" would also include everything from a partnership agreement, to a simple contract for the sale of goods. This because a partnership agreement would restrain the ability of the partners to enter into other agreements with third parties. A sale of goods would also represent a restraint of trade because it would remove the goods from the market. In fact, to the extent that all business transaction of any sort involves some restraint of trade, a literal interpretation of the Act would outlaw all business transactions. Clearly this was not what Congress intended, so the courts were left with a law that was literally unenforceable. To get around this literal interpretation the courts felt that they had the discretion to determine not what was a restraint of trade, but what was an unreasonable restraint of trade.

Whether by design or accident the net result of this language was the when the battle moved to the courts; the proponents of competitive markets were at a severe disadvantage when the judges who were free market proponents claimed that the Act breached the constitutionally protected property rights. An earlier indication of the court's response the Sherman Act was demonstrated; in their refusal to restrict exclusive dealing transactions commonly used by various whiskey trusts which controlled 75-100% of the distilled products in various regions of the United States. In the first of these so-called whiskey trust cases, *re Corning*,¹³⁰⁸ the government challenged the defendant's exclusive supply agreements that required that their agents; to sell only their products, at resale prices set by the defendants. The court ruled that the indictment "wholly fails to charge a crime" as the defendant had "legally purchased with their own capital three fourths of the distilleries in the United States" and had not "obliged the vendors not to build other distilleries" and further had not in "attempted in any manner... to control the business of the remaining one fourth of the distilleries". Because vendors were not

¹³⁰⁶ *Id.* 13

¹³⁰⁷ *Id.* 14

¹³⁰⁸ *re Corning* 51 F. 205 (N.D. Ohio 1892).

forced to enter into the exclusive agreements and free to purchase from the other one fourth of distillers that courts ruled that this was not an unreasonable restraint of trade. In another whiskey trust case which involved a similar indictment Supreme Court Justice-to-be Howell E. Jackson went beyond attempting to define reasonable restraint by suggesting that the Sherman Act could not regulate property of corporations in any manner, as to do so would be to threaten the destruction of an essential right protected by the constitution.¹³⁰⁹ His view being that such regulation represented a unconstitutional taking of property that had to be rejected regardless of the effect on trade or prices.

Although these strident free market decisions were eventually constrained by the Supreme Court's decisions on how to interpret the Act in the price fixing cases of *Trans-Missouri*¹³¹⁰ and *Joint Traffic*,¹³¹¹ the initial antipathy of the court towards the Act, was all that the industrialist needed to continue with their free market practices. Indeed, even after the Supreme Court had made its ruling in *Trans-Missouri* many free market practices; like exclusive dealing were still held to be reasonable by a later Supreme Court. The most well-known examples of which were the 1913 decisions which implicitly upheld the exclusive dealing practices of the United Shoe Company in *United States v. Winslow*¹³¹² and which was upheld even more explicitly by the Court five years later in *United States v. United Shoe Company*.¹³¹³

Of all continuing free market practices that promoted the self-interest of the industrialist, the one that had the most detrimental effect on to society was their insider trading activities. It was the most detrimental because it undermined the public confidence in the stock market which was the main reason for the market crash of 1927, which in turn led to the great depression of the 1930's. It should be noted that for year before the crash and even before the panic of 1873, there was public condemnation of the practice. For example, in 1871 Charles F. Adams Jr., the great grandson of John Adams the second American President, Grandson of John Quincy Adams the sixth American President, explained the damage done by insider trading as follows;

'Our whole system rests upon the sanctity of the fiduciary relations. Whoever betrays them, a director of a railroad no less than a member of Congress or the trustee of an orphans' asylum, is the common enemy of every man, woman, and child who lives under representative government. The unscrupulous director is far less entitled to mercy than the ordinary gambler, combining as he does the character of the traitor with the acts of the thief.'¹³¹⁴

However, like so many other free market practices the Congress and judiciary was either: so corrupted by, or committed to the free market; that they were either complicit with or indifferent to insider trading.¹³¹⁵ Not until *Strong v. Repide*¹³¹⁶ in 1909, did the U.S. Supreme

¹³⁰⁹ *In re Greene*, 52 F. 104 (C.C.S.D. Ohio 1892).

¹³¹⁰ *United States v. Trans-Missouri Freight Ass'n*, 166 U.S. 290 (1897).

¹³¹¹ *United States v. Joint Traffic Ass'n*, 171 U.S. 505 (1898).

¹³¹² *United States v. Winslow*, 227 U.S. 202 (1913)

¹³¹³ *United States v. United Shoe Machinery Co.*, 247 U.S. 32 (1918)

¹³¹⁴ Charles F. Adams JR., *A Chapter of Erie*, (Boston, J.R. Osgood and Company, 1871)

¹³¹⁵ It is worth noting that the questions of corruption were not only at the lower levels. In 1923, the Hearst papers reported that the former President and current Supreme Court Chief Justice William Taft was receiving \$10,000 a year from an annuity left to him by Andrew Carnegie and paid by the United Steel Trust.

¹³¹⁶ *Strong v. Repide*, 213 U.S. 419 (1909)

Court rule that a company official had any obligation to disclose their identity and non-public information they possessed when they traded company stocks. And even in that case the Court went out of its way to suggest directors were not under a fiduciary duty to disclose to shareholders any knowledge potentially affecting the value of company shares.¹³¹⁷ Not only did this unchallenged freedom to behave like a card cheats effect the public confidence in the market; it also created an atmosphere of impunity for all manner behaviour some of which went well beyond insider trading and involved out and out fraud on the part of the directors. The most notorious example of which was the 1920's scheme used by Charles Ponzi, a property developer; who used the money from new investors to pay huge fictitious profits to old investors. The fictitious profits initially being considered realistic, because of they resembled the profits that directors earned on their insider trading operations.

Although the great depression followed the crash of 1927, it does not necessarily mean that the crash was the cause of the great depression. Whilst the crash was indicative of a general lack of confidence in the stock market and by proxy a lack of confidence in the economy, the severity of the ten years depression that followed was indicative of a much greater problem. Indeed, given that there was little reason to believe that the stock market was significantly overvalued at the time of the crash, there must be another explanation. The most logical explanations had to do a general market failure that resulted in too high a concentration of wealth in the hands of too few individuals. This was the explanation that was provide by the renowned economist, John Maynard Keynes. According to Keynes, 'when wealth is too unevenly distributed those that have too much don't spend enough or spend it unwisely, while the poor have nothing to spend, all of which lead to a drop in aggregate demand.'¹³¹⁸ This drop in aggregate demand then leads to a vicious cycle of lowers sales, which leads to layoff which leads to lower sales, and further layoffs.

This was clearly what happened during the great depression; as a result of all the various free market practices utilized by the industrial barons, a handful of individuals controlled a great deal more of the nation's wealth than they would have in a more honest and ethical business environment. And this disproportionate accumulation of wealth continued right up to up the market crash. The proof of this can be found in the Federal Reserve Bulletin of 1929 which confirms that although industrial productivity grew by 25% in the five years prior to the crash, industrial payrolls stagnated.¹³¹⁹ What this meant is that although the workers were more productive, they were not sharing in the economic prosperity that resulted from that increased productivity. Because they were not sharing in that economic prosperity, they obviously did not have the money to buy the extra good that they were producing. That this stagnation of wages: which resulted in a stagnation in aggregate demand would inevitably lead to a depression not only appears logical it was also observable in the country at large. To that end an article in the Time on October 5, 1931 described the situation as follows:

'This depression ... is a panic of plenty. There is too much of everything except buying power. There is so much wheat that people are hungry. So much cotton that

¹³¹⁷ *Id.* page 213 U.S. 420 "Even though a director may not be under the obligation of a fiduciary nature to disclose to a shareholder his knowledge affecting the value of the shares, that duty may exist in special cases, and did exist upon the facts of this case."

¹³¹⁸ Keynes, *The General Theory of Employment*,

¹³¹⁹ The Federal Reserve Bulletin, p. 728, (1929)

folks are half naked. So much housing that in Chicago women are sleeping in parks. ... Too much of the national income goes into the hands of a few. ... A handful of men with their spare cash could buy the output of all the gold and silver mines of North America and many a sovereign State has a smaller income than the net profit of a single industrial magnate."¹³²⁰

As inevitable as it was that the free market property stage should result in a depression, it was even more inevitable that depression should result in the demise of the free market property stage. For while the majority of citizens were willing to tolerate the huge disparities in wealth; when it produced an overall increase in national economic efficiency and individual economic well-being, they were not so tolerant when the opposite was true. That a handful of people should so disproportionately and unjustly enrich themselves, to the detriment of the public at large was simple unacceptable in a democratic society. It was for this reason that shortly after the beginning of the depression societies chose a new model. One that would put restrictions on the market abuses which were practiced so commonly during the free market property stage.

14.3.2 Directed Property Stage

Because the free market stage resulted in such huge social and economic disasters it is hardly surprising that the stage that followed it would involve a dramatic shift in the evolution of property rights. While inequities of property ownership resulting from the free market stage were tolerated as a necessary evil of economic efficiency, once the efficiency justification of the free market proved to be an illusionary, the largest inequities were no longer considered necessary or acceptable. What was needed was a new more modern economic model that would both drive economic efficiency and provide greater social equity. In some parts of the world this new model would be based on the communist ideology of Karl Marx, under which all property would be removed from private ownership and transferred into public ownership. This reaction to the failings of the free market property was however at the extreme end of the evolutionary change and in reality represented an attempt to return to the earliest stages of property rights on the property continuum. Another extreme response to the failings of the free market property stage was transfer of ownership of critical industries to the public under a process referred to as Nationalization. This process can also be considered to be an attempt to return to an earlier common property phase of property rights although it only involved change in the ownership structure of a minority of the property in a society. Because ultimately both of these changes resented an unrealistic and unsustainable attempt to turn back the clock in the evolutionary process of property ownership they will not be considered part of the evolutionary continuum. What will however be considered a stage on the evolutionary continuum is the first of three regulatory stages that changed the nature of property rights in an effort to both improve economic efficiency and provide greater social equity while maintaining universal property rights.

The first of these stages can be defined as the directed property stage. Under this stage ownership remained in the hands of private parties but the government attempted to directly manage the economy through coercive application of laws directing how those properties

¹³²⁰ Time Magazine, Oct 5th, 1931.

should be used. As with other property stages this stage relied on a new justification for property rights.¹³²¹ This justification came from new economic philosophers the most notable of which was John Maynard Keynes. The fact that the new justification came from economics should not be surprising as the objective of ever-increasing levels of economic efficiency was still the goal and it was just a shift in the methods of achieving this efficiency that was altered.

According to Keynes the free market on its own was subject to a continual series of business cycles and the government had an important role to play in the stabilization of the economy. He advocated that the government use both fiscal and monetary measure to mitigate the adverse effect of business cycle downturns in order to avoid turning recessions into depressions. The fiscal measure that he advocated involved increasing the supply of money during a downturn which of course was consistent with the prevailing concept of quantity theory of money.¹³²²

The fiscal measure he advocated were however not consistent with the prevailing economic theory.¹³²³ The prevailing view implied that the most critical aspect for economic development is the increase in the flow or supply of goods to the market. Keynes challenged this view by suggesting that it was aggregate demand that was the driving factor. He argued that without increases in demand, any increase in the supply of goods to the market mainly result in a decrease in the price of goods. Based on his analysis he suggested that in a recession of governments should increase, rather than decrease, their spending in order to maintain aggregated demand in the economy.¹³²⁴ By doing this governments would not only avoid the cost of a recession but the actual cost of the spending would be less it appeared because of the multiplier effect.¹³²⁵ The spending to be financed through increased government borrowing, which would be repaid once the economy recovered and tax revenues returned to their pre-recessionary levels. He further suggested that economies are susceptible to the concept of price stickiness, the recognition that in reality workers often refuse to lower their wage demands even in cases where a classical economist might argue it is rational for them to do so. Partly as a result of price stickiness, he felt that the interaction of "aggregate demand" and "aggregate supply" may lead to stable unemployment equilibrium above that which was desirable.

As could be anticipated this avocation of government interference in the macro-economy were mistakenly interpreted as a justification for government interference in the micro-economic aspect of business. After all, if the government was a better and more knowledgeable manager of macro-economic affairs; why would they not also be a better and more knowledgeable manager of micro-economic affairs. Keynes however did not advocate such micro-economic management and he was directly opposed to any government attempts interfere in the private market by regulating the supply of goods as a means of increasing

¹³²¹ Because the free market justification of an "invisible hand" guiding to the economy forward onto ever increasing levels of economic efficiency proved false and it could no longer be relied upon.

¹³²² The Quantity Theory of Money is a theory that money supply has a direct and proportional relationship with the price of goods in the market. The most common expression of this theory is found in the economic equations " $MV = PQ$ " where; M is the supply of money, V is the velocity of money, P is Price and Q is the quantity of goods available in the market. This theory dates to the 16th Century School of Salamanca, when it was observed that there was an increase in prices good following the import of gold and silver, used in the coinage of money, from the New World.

¹³²³ Classical economists had believed in Say's Law, which states that "supply creates its own demand", and implies that the most critical aspect for economic development is the increase in the flow or supply of goods to the market.

¹³²⁴ John Maynard Keynes, *The Means to Prosperity* (London, Macmillan and Co., 1933)

¹³²⁵ Keynes assumed that the majority of Government spending would ultimately be used to pay employees who would in turn spend money, the majority of which would ultimately used to pay other employees and as a result of this continuous process the initial government spending would provide a multiplier effect in the economy.

prices.¹³²⁶ Indeed as will be demonstrated in the example of directed property included in this stage, he thought that such actions would be ineffective.

Notwithstanding Keynes objections; the sentiment of his arguments that the government was the best placed to manage the economic affairs of a nation resonated with those that felt that an unfettered and absolute free market was unsustainable and government regulation was not only desirable but absolutely necessary, if the capitalistic model was to survive. The only real question was the extent of those regulations or how intrusive a role the government should play. If the chaos reaped by the free market stage had not been so overwhelming, it is possible that the initial government reaction would not have been so intrusive.¹³²⁷ However because the carnage reaped by the Great Depression was so immense, it is hardly surprising that the regulatory reaction was bound to be an overreaction.

One of the best and most ambitious examples of government regulation of property during this stage must be the National Industrial Recovery Act (NIRA), which was initiated by President Franklin D. Roosevelt (FDR) in 1933 as a response to the Great Depression. The NIRA created the National Recovery Administration (NRA), a New Deal agency which was mandated with the task of eliminating destructive competition in the economy which was perceived to be the main obstacle to ending the Depression. The primary activities of the agency were the establishment of price controls for products, and the imposition of fair codes of conduct for competition and labour contracts. The new law was limited to two years from the date of its enactment. The thought was that: if industry could charge higher prices for their products without fear of competitive retaliation, they could afford to treat their workers better, which would mean that the workers could then afford their products. To facilitate the Act Anti- Trust laws were suspended for industries that adopted the new codes.

President Roosevelt called the NRA a partnership in planning between government and industry. It's goal to speed recovery by establishing profit levels for business and wage levels for labour. In an address to the nation President Roosevelt explained the NIRA as follows:

'On this idea, the first part of the NIRA proposes to our industry a great spontaneous cooperation to put millions of men back in their regular jobs this summer....if all employers in each trade now band themselves faithfully in these modern guilds--without exception-and agree to act together and at once, none will be hurt and millions of workers, so long deprived of the right to earn their bread in the sweat of their labour, can raise their heads again. The challenge of this law is whether we can sink selfish interest and present a solid front against a common peril.'¹³²⁸

The first Section of the NIRA read as follows:

¹³²⁶ Keynes, *The Means to Prosperity* 13 "but as an all around remedy restriction is worse than useless. For the community as a whole it reduces demand by destroying the income of retrenched producers, just as much as it reduces supply."

¹³²⁷ It should be noted that this assessment of the failure of the free market is contested by neo-conservative economist who point to macro-economic mistakes made by governments as the main, if not only, reason for the Great Depression. While some of their criticism has merit they seem to be wilfully ignorant, in the way that they ignore, any negative consequences resulting from the trade practices engaged in by the industrialists prior to the Great Depression. See for example: Lawrence W. Reed, *Great Myths of the Great Depression* (Atlanta, Foundation for Economic Education, 2010)

¹³²⁸ Franklin D. Roosevelt, "*Statement on the National Industrial Recovery Act*" (1933) Franklin D. Roosevelt Presidential Library and Museum

'A national emergency productive of widespread unemployment and disorganization of industry, which burdens interstate and foreign commerce, affects the public welfare, and undermines the standards of living of the American people, is hereby declared to exist. It is hereby declared to be the policy of Congress to remove obstructions to the free flow of interstate and foreign commerce which tend to diminish the amount thereof; and to provide for the general welfare by promoting the organization of industry for the purpose of cooperative action among trade groups, to induce and maintain united action of labor and management under adequate governmental sanctions and supervision, to eliminate unfair competitive practices, to promote the fullest possible utilization of the present productive capacity of industries, to avoid undue restriction of production (except as may be temporarily required), to increase the consumption of industrial and agricultural products by increasing purchasing power, to reduce and relieve unemployment, to improve standards of labor, and otherwise to rehabilitate industry and to conserve natural resources."¹³²⁹

The NIRA authorised the NRA to arrange public hearings which would set prices, develop fair codes of competition and develop voluntary agreements with industry regarding work hours and pay rates. The first director of the NRA was Hugh Samuel Johnson, a retired United States Army general and a businessman, whose pursuit of the aims of the NIRA resulted in him being named Time magazine's "Man of the Year" in 1933.¹³³⁰ As head of the NRA one of Johnson's first actions was to call for the establishment of a "blanket code": a minimum wage of between 20 and 45 cents per hour, a maximum workweek of 35 to 45 hours, and the abolition of child labour. Both Johnson and Roosevelt contended that the "blanket code" would raise consumer purchasing power and increase employment.

In a clever plan to mobilize support for the NRA, Johnson launched the "NRA Blue Eagle" publicity campaign. Under this campaign businesses that supported the NRA codes of conduct were encouraged to put the Blue Eagle (A blue-coloured image of the American thunderbird) in their shop windows or on their packages. Though adoption of NRA codes was voluntary, businesses that did not display the symbol were often boycotted, which meant that refusal to adopt the codes could threaten the very existence of a business. Using this increased bargaining position; in a remarkably short period of time (six months) the NRA were able to adopt over 242 administrative orders detailing agreed codes of practices in most of America's major industries covering 70% of the American work force. The most important provisions of these orders were anti-deflationary floors, below which no company would lower prices or wages, and agreements on maintaining employment and production.

Typical provision of the codes which were agreed can be found in the agreement regarding U.S. steel and coal industries. In the steel industry labour was offered a forty-hour week with minimum pay ranging from \$10 in the South to \$16 in the North and West. Child labour was not an issue as there were no workers under the age of 16 at the time. Collective bargaining was provided by means of company unions set up for that purpose. Manufacturing operations were to be limited to two eight-hour shifts per factory and no new factories were to be constructed without prior Presidential approval. Steel prices were to be based on government mandated

¹³²⁹ National Industrial Recovery Act, Section 1, (1933)

¹³³⁰ Time Magazine *Man of the Year* (Jan 2, 1933)

new district quotations which were to be review every ninety days.¹³³¹ In the coal industry the code provided for a maximum eight-hour day and an average 40-hour week. Minimum pay: \$5 per day for underground workers; \$4 per day for outside men. Employees did not have to live in company houses or trade at company stores. No workers under the age of 17 were permitted inside the mines and no workers under the age of 16 were permitted to work outside the mine. Selling coal under the fair market price was declared to be an unfair competitive practice. The fair market price to be determined by five regional coal marketing agencies made up of trade associations in their local coal industry. All fair market prices were subject to review by the NRA. Coal exported by American producers was exempted from these price restrictions.¹³³²

Despite the success of imposing new codes, there were numerous critics of the NRA. Part of this was because the authoritarian leadership style of Johnson upset many people. Instead of creating a harmonious corporate state, Johnson was berating both business and labour, attempting to force upon them his ideas of what a code should contain. Of particular consequence and concern to Johnson; was the fact that the boards were dominated by big business, who drafted codes that benefited their interest over those of smaller competitors and consumers.¹³³³ Generally this meant that codes mandated price increases greater than the salary increases receive by labour and establishing minimum working conditions that many small businesses were unable to provide. It appeared like the government was authorizing the boards to establish monopolies and in many instances this is exactly what was happening.¹³³⁴ This analysis was on display at the major newspapers like the Chicago Tribune and Hearst papers which attacked the NRA in their editorials by stating:

'The Government, undertaking to control American industry and business by codes enforced in minute detail by Federal authority over all phases of American production, has failed to meet the expectations of the administrators, failed to satisfy the economic requirements of the country, to fit in congenially with the American temperament, and to remedy the ills for which it was used as a cure.'¹³³⁵

From the left: labour argued that the provisions of the codes did not provide sufficient wages to labour to cover the cost of the simultaneous price increases. Even though the codes created the precedent covering minimum wages, maximum hours, abolished child labour, as well as boosted the labour movement by drawing large numbers of unskilled workers into unions. Even those that were intellectually assumed to have supported the program were critical. For example, John Maynard Keynes said;

'There is no conceivable way of putting more purchasing power into use except by increasing loan expenditure. ... President Roosevelt put it in the forefront of his program. Nevertheless, I fear that the hesitation in American progress today is almost

¹³³¹ Codes of Fair Competition, Nos. 1-57, volume 1, (Oct 1933) 174-178

¹³³² *Id.* 324-335

¹³³³ A process that is now recognised as regulatory capture. One of the developers of the theory of regulatory capture is Nobel laureate economist George Stigler. See: Stigler. *The theory of economic regulation*. Bell Journal of Economics and Management Science 2 (spring): 3-21. (1971)

¹³³⁴ These advantageous regulations can be described as representative of "agency capture" which will be discussed in more detail under the regulated stage.

¹³³⁵ Chicago Tribune *Editorial* (Sept 15, 1933)

entirely due to delays in putting loan expenditure into actual effect. ... Little has been spent though much has been planned. ... It seems to have been an error in choice of urgencies to put all the national energies into the National Recovery Act. The most urgent problem was to expedite capital expenditure."¹³³⁶

Although these criticisms dealt with the ineffectual nature of the NRA, ultimately the more critical criticism came from the courts. The first of these came in December of 1933 when a Federal Court Judge in Florida handed down a decision that questioned the constitutionality of the NRA.¹³³⁷ In this case several cleaners and dryers asked the court to restrain one of their competitors, Samuel Bazemore, from charging prices lower than those in force by that trade area and forcing his employees to work 60 hour weeks instead of the code mandated 40 hours per week. The Judge denied the motion to enjoin Bazemore because; only the Federal District Attorney has authority to appeal to the courts for enforcement of the Recovery Act, Samuel Bazemore was not engaged in interstate commerce and Congress therefore had no constitutional authority to regulate his business. The judge justified his ruling by suggesting that if Congress claims such authority by reason of a "national emergency," that is a pernicious doctrine which would upset the Constitution and lead directly to anarchy and despotism. Although this case was to go no further because Bazemore subsequently voluntarily changed his practices to conform with the local trade rules, it set the stage for future constitutional challenges.

Criticism also came from the Congress which, when it returned from recess in January of 1934 began to voice its objections to the NRA and their codes. During their months of recess Congressmen had writing to the President protesting that the NRA was driving small business to the edge of bankruptcy and that it was creating trusts that were engaged in price fixing. What they wanted was that the Federal Trade Commission be given the power to protect small businessmen, i.e.: to restore the Anti-Trust laws. However, nothing happened, so in the first session of the new Congress they established a review board that would listen to the complaints of the small business and offered an amendment to the Recovery Act that would end the suspension of the Anti-Trust laws.

In an effort to mollify this criticism, President Roosevelt issued an executive order that directed the Federal Trade Commission to look out for the interests of any small business which appealed to it for help against code-born monopolies, he further directed that, if the Trade Commission could not help, the case should be passed along to the Department of Justice. The president also used an executive order to appoint Clarence Darrow¹³³⁸ to the National Review Board which would review the work of the NRA.¹³³⁹ These executive orders were effectively a repudiation of the bargain that the NRA represented and the beginning of the end of the program. If big business could not be protected from anti-trust laws, they saw little benefit in abiding by other parts of the code. Particularly as from an economic prospective the program was not producing the intended results. Six months after the NRA went into effect, the cost of doing business had increased dramatically, which drove down industrial production by twenty five percent.

¹³³⁶ Time Magazine, National Affairs: Who's Next, (Sept 25, 1933)

¹³³⁷ *Purvis v. Bazemore*, 5 F. Supp. 230 (S. D. Fla. 1933)

¹³³⁸ Clarence Darrow was a highly respect lawyer who spent his early career defending workers' rights.

¹³³⁹ Executive Order 6632 on March 7, (1934)

Despite these criticisms and comprises, General Johnson and the proponents of the NRA pressed on. By the end of February, there were more than four thousand staff in the NRA which were each day turning out reams of decision and orders that affected every industry in the nation. Each decision having the authority of substantive law. However, as the decisions and orders multiplied, so too did the criticism and eventual legal challenges. Not the least of these came in May of 1934 when the much-awaited National Review Board issued the first of three reports. To understand the impact (or lack thereof), of these reports on the NRA a brief discussion of the review process is warranted.

Over the period of four months the Board held 57 public hearings, reviewed 3,375 complaints, and investigated thirty-four codes. These codes covered over half of the total employed labour that worked in industries that operated under the NRA codes. During the review period, in which the Board was hearing numerous complaints from small business, the NRA continued to enforce the codes in a draconian manner. For example, in April 1934 a New Jersey court fined a tailor, Jacob Maged, \$100 and sentenced him to thirty days in jail for charging thirty-five cents, instead of the code minimum of forty cents, to press a suit. While he served only three days and was apparently not required to pay the fine after agreeing to adhere to the cleaners and dryers code, it clearly had an impact on both the Board and public opinion.

The first report¹³⁴⁰ of the Board was completed on May 3 and it was sent directly to the president along with a minority report written by a dissenting Board member. On May 9th President Roosevelt said the report was too bulky to be published and he was sending the it along with dissenting minority report to the Federal Trade Commission, the Department of Justice, and the National Recovery Administration so they could be studied and summarized. Once the summary was produced it would be made available to the public. The withholding of the first Board report created even greater public interest in the report and the administration finally forced to release both it and minority report to the public on May 20. Once it was released it became clear why the President tried to have its publication delayed. The conclusion of the report was that the NRA codes promoted monopolies and hurt small businesses. That it was unrealistic to believe that business could regulate itself for the benefit of all. Of particular significance was the report's scathing denounced the big businessmen's domination of the codes.

In addition to the initial report; William O. Thompson another member of the Board, perhaps in anticipation that the President's summary process was going to result in a distortion of the report's conclusions, produced his own five-page summary which he managed to get Darrow to sign. This summary that was released on the same day as the reports and to the surprise of those who advocated socialism to fix the economic ills of the country, the summary stated,

'The choice is between monopoly sustained by government, which is clearly the trend in the National Recovery Administration, and a planned economy, which demands socialized ownership and control, since only by collective ownership can the inevitable conflict of separately owned units for the market be eliminated in favour of planned production.'¹³⁴¹

¹³⁴⁰National Recovery Review Board: First report to the President of the United States (1934)

¹³⁴¹ Clarence Darrow & William O. Thompson, *Special and Supplemental Report to the President*. (1934)

Because the public believed that the special report came from the full Board and reflected the Board's views, General Johnson and other NRA supports used it to discredit the full report. This despite the fact that the summary was totally contradictory to the full report. In a full-on public relations assault on the Board, Johnson advocated that the Review board be abolished because it advocated socialism. While Darrow tried to distance the Board from the summary, the damage had been done. The spectre of socialism had effectively eliminated any constructive criticism of the NRA from the review board.

While the Review Board sent and publish its second report on the June 8th and its third on June 28th its criticism was no longer effective. Included in the third was a section for conclusions that the board thought important enough to emphasize. The first of these conclusions was that in virtually all of the 34 codes examined

'one condition has been persistent, undeniable and apparent to any impartial observation. It is this, that the code has offered an opportunity for the more powerful and more profitable interests to seize control of an industry or to augment and extend a control already obtained.'¹³⁴²

But these conclusions did not matter, the Board had already been discredited and on June 30, 1934 President Roosevelt issued Executive Order 6771 abolishing the National Recovery Review Board.

After the emasculation and abolishment of the Review Board the work of the NRA continued apace. More staff were hired, and more codes enacted. This process was however not without other obstacles, the greatest of which came from the increasing demands of labour for a greater share of the benefits of the program. In September the NRA faced one of its greatest challenges. The cotton textile industry which prided itself on being the biggest single industry in the U.S. and the first to enact a code, was being threatened with a general strike called by the United Textile Workers of America. In response the President ordered that the NRA cut hour of the Textile workers and grant a wage increase to offset the shorter hours. The garment executives called the President's demands unjustified, unwarranted, burdensome and inequitable, but the NRA was unresponsive to their pleas, which only increase business apathy toward the program.

This business apathy was only increased in the Spring of 1935 when the NRA's new Chairman,¹³⁴³ Samuel Williams, announced that they would cease setting price controls which the business community had come to rely on. Time magazine reported:

'Of the 2,000 businessmen on hand probably 90% opposed Mr. Williams' aim. To them a guaranteed price for their products looks like a royal road to profits. A fixed price above cost has proved a lifesaver to more than one inefficient producer. Lazy producers have found that a fixed price, below which their smartest competitors cannot go, leaves them more time for golf than when they have to spend long hours

¹³⁴² National Recovery Review Board: Third report to the President of the United States (1934)

¹³⁴³ General Johnson resigned in the September of 1934

at the office wracking their brains for ways to hold their markets. In fact, to most manufacturers guaranteed prices promise heaven on earth so long as the public does not find such prices a barrier to buying. Hence man by man, hour by hour, Business rose to argue and protest against what the NRA proposed.¹³⁴⁴

In the end it was not the labour's or businesses criticism of the NRA that led to its downfall but rather the decision of the court. As time progressed more and more court case were being filed challenging the constitutionality of the NRA and its codes. While in the lower court some of these challenges were being lost, the administration appeared reluctant to appeal to the Supreme Court for legal legitimacy. Finally, because the NRA was coming up for renewal of its two-year mandate and the Congress refused to renew the mandate without clarification of the NRA legal standing, the administration was forced to go to the Supreme Court.

The case chosen by the new NRA chairman, Donald Richberg, to take the Supreme Court was the case involving sale and distribution of chickens by *Schechter Poultry Corp.*¹³⁴⁵ The Department of Justice announced that it would hurry the case to the Supreme Court. The goal being to have the case heard and decided before the initial mandate of the NRA was set to expire.

The facts of the case were as follows: *Schechter Poultry Corp.* company operated the two largest jobbing plants in the \$60 million-a-year poultry industry in Brooklyn. In the previous year they had been indicted on 19 counts of violation the Live Poultry Code. Seventeen of the code violations had to do with fair trade provision in which they were accused of; selling diseased and uninspected chickens, providing special buying privileges to certain butchers, and filing false reports on sales and prices. The two other counts charged the company with working employees longer than code hours and paying them less than code wages.

The case against this the company had moved through both the District Court and Circuit Court. Just prior to the NRA selection for its Supreme Court case, the Circuit Court on Manhattan had made a ruling which differentiated between the fair-trade practices and the employee practices. With respect to the fair-trade practices it ruled that because some of their chickens came from outside New York they constituted merchandise in interstate commerce which were subject to NRA regulations, therefore upholding the trial court's decision that the company had been guilty of unfair trade practices. However, with respect to employment practices the majority of the Circuit Court ruled that the working conditions in the company's plants did not involve interstate commerce and therefore not subject to NRA codes. In effect this decision called into question the legitimacy of all of the NRA's labour and wage provisions.

At the Supreme Court the government argued that the Constitution's commerce clause¹³⁴⁶ empowered Congress to regulate both intrastate and interstate business; if the intrastate business would have an effect on interstate business. The defendant's argument was that if the Government could regulate one intrastate business, it could regulate all businesses and if carried to the extreme this would mean that Congress could find itself in charge of all human activity.

¹³⁴⁴ *Time Magazine, Dollar Men and Prices*, (Jan 1935)

¹³⁴⁵ *Schechter Poultry Corp. v. United States*, 295 U.S. 495 (1935)

¹³⁴⁶ United States Constitution (Article I, Section 8, Clause 3). The clause states that the United States Congress shall have power "To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes".

In attempting to define the limits of the Government's regulatory authority the Justices asked how the NRA arrived at "fair trade" and "fair labour" standards. The Government's response was that it was the standards which the industry considers unfair, as amended by the judgement of the President, which was established according to the "common law". After the arguments the Court closed its hearings and recessed to study the problem of reconciling the NRA with the Constitution.

On June 3 the Supreme Court provided its decision. Chief Justice Hughes stated that it was the unanimous opinion of the Court that the method of code making was an unconstitutional delegation of legislative authority by Congress. That while it was one thing to seek voluntary cooperative effort, it was quite another to use the coercive power of the government to force compliance. In order to turn the codes into law, it was not sufficient to have NRA codes backed by Presidential executive orders. That only the Congress had the authority to create law and it could not delegate its authority to the President and the NRA. With respect to the employment side of the question the Court said; if the Federal Government had the authority to determine wages and hours of employee work in the intrastate commerce because their indirect effect on interstate commerce, it could enable them to exert control over other elements of production. And while it is not within the Courts province to consider the economic advantage of such a centralized system, it was sufficient to say the Constitution does not provide for it and as such to fix the hours and wages of the employees of the defendants in their intrastate business was not a valid exercise of Federal Power.¹³⁴⁷

This decision meant that all 557 NRA codes backed by executive orders were no longer legally applicable. It further implied that even if the codes had been enacted by Congress, regulating intrastate commerce issues was beyond the scope of Federal powers as defined by the constitution. Although Congress acceded to the president's wish for renewal, the NRA had lost its powers and was terminated on 1 January 1936. But it should be pointed out that decision did not constitute a repudiation of the regulations, but rather questioned the method in which the regulations were imposed.

While the decision might have effectively been the legal death of the NRA many people saw another reason for its demise. That reason being that the program had been failed to achieve its objectives. The recovery had effectively stalled in 1934 and 1935 and as such the administration shifted its attention to other programs that they thought could achieve better results. That is not to say it abandoned efforts to regulate business, indeed in 1935, Congress by an overwhelming margin ratified the so-called Wagner Act¹³⁴⁸ which recognised the right of workers to form unions and prohibited employers from interfering with operations of unions or discriminating against the union members. The difference between this and the NRA codes was that rather than telling businesses what they had to do it told businesses what they could not do.

This shift in regulations in this example is emblematic of decline of the directed property stage and the rise of the restricted property stage. As mentioned in the introduction to the universal property phase the demise of the directed property stage was largely a result of a recognition by governments that they were not as capable of managing the micro-economic

¹³⁴⁷ An interesting postscript to this decision is that about one after the decision, Schechter Poultry went out of business, presumably because of their competition adopting the very same trade practice that they sought to defend.

¹³⁴⁸ National Labor Relations Act (1935)

affairs of business as they thought they were. At times this recognition was as a result of thoughtful economic analysis, but more often than not it was the negative outcomes that resulted from these directed regulations or some other external event that was the catalyst for change. That is not to say that all directed regulations have had a negative economic effect. In certain industries directed government regulation appears to provide both better economic and better social outcomes.¹³⁴⁹ But the exception to the inefficiency of directed regulation do appear to be just that, exceptions. Unsurprisingly generally the stronger the commitment to directed government regulation the longer it took for the recognition of an inefficient outcome to become recognised and excepted.¹³⁵⁰ However regardless of the method or time frame in which this recognition was achieved; the net result was that if governments did not want to return to the free market chaos, they had to find a new better methods of regulating industry and the economy. And what more logical way could there be, than to change from telling property owners what they had to do, to telling them what they could not do.

Before moving on to the next stage, an alternative explanation or reason for the demise of the directed property needs to be examined. Unlike the very real questions about the economic efficiency of directed regulation, this alternative reason was more contrived than real. It can be called contrived because it involves invoking a threat that directed regulations were just the first step in imposition of fascism or communism, even though this was not the case.¹³⁵¹ There are three great ironies to this fear mongering, the first is that the very business that were conjuring up the threat of communism or socialism to scare societies into return to a free market system, were at the same time negotiating secret deals with those same fascists and communists in order to enrich themselves.¹³⁵² The second is that all fascist states have relied upon the support of their own major industrialist to come to power and stay in power.¹³⁵³ The third and perhaps greatest irony is that but for the extreme social chaos that resulted from unfettered free

¹³⁴⁹ A prime example of this would be the healthcare industry where the government directed healthcare traditionally has resulted in much lower costs and better overall health outcomes than non-directed healthcare.

¹³⁵⁰ While both Communism and Nationalization can be classified as not belonging to this stage, if one was to view them as an extreme example of directed property, it is clear that the commitment to these absolute government directed properties lasted long after their inferior economic outcomes were recognised.

¹³⁵¹ At most major western governments were exploring the potential benefits of socialism but at no time was any leading politician seriously proposing the abolishment of democracy and the imposition of an authoritarian dictatorship, which is the predominate feature of both fascism and communism.

¹³⁵² Charles Higham, *Trading With the Enemy: the Nazi-American Money Plot 1933-1949* (Book Reader 1983) Cover Flap "Standard Oil of Jersey shipped the Nazis precious oil through Switzerland...Ford Motor Company trucks were built for Nazi troops...ITT supplied much of Hitler's communications system...Throughout World War II, the list of those who chose business as usual even when the business was conducted with their country's enemy during a war is as extensive as it is shocking."

¹³⁵³ William Shirer, *The Rise and Fall of the Third Reich, A History of Nazi Germany* (Simon & Schuster 1960), p143-144 "In the summer of 1931, the Fuehrer suddenly decided to concentrate systematically on cultivating the influential industrial magnets...What magnets were they?...Their identity was a secret which was kept from all but the inner circle around the leader. It had to ...beguile the masses with the cry that the National Socialist were truly "socialist" and against the money barons. On the other hand, money to keep the party going had to be wheedled out of those who had an ample supply of it. Throughout the latter half of 1931, ... Hitler traversed Germany from end to end holding private interviews with prominent [business] personalities. ...We know ...at least some of the "influential industrial magnets" whom Hitler sought out were. Emil Kirdorf, the union hating coal baron...Fritz Thyssen, the head of the steel trust...Albert Voegler, also a power in Untied Steel Works... Georg von Schnitzler, a leading director of I.G. Farben a giant chemical cartel...August Rosterg and August Diehn, of the potash industry...Cuno, of the Hamburg-America line... the Conti rubber interests... Otto Wolf, the powerful Cologne industrialist...Baron Kurt von Schroeder, the Cologne banker...one of Hitler's economic advisers, brought in a number of South German industrialist and a peculiar society of businessmen devoted to the S.S. chief, Himmler, called the Circle of Friends of the Economy...which later became known as the as the Circle of Friends of the Reichsfuehrer."

markets, there would not have existed the fertile ground of social unrest in which both communism and fascism were allowed to take root.

However irrespective of the contrived nature or the ironies, the fact of the matter was and is that because both fascism and communism represented spectres of enormous dimensions they provided, and continue to provide, free market proponents an extremely effective tool to use to discredit any government interference in the economy.¹³⁵⁴ Undeniably the most successful articulation of this argument has to be a work by the Austrian Economist Friedrich August Hayek titled the “Road to Serfdom”.¹³⁵⁵ The premise that Hayek advanced in this work was as simple as it was effective. He theorised that; government interference always leads to greater government interference and because this greater interference is doomed to failure, this failure would result in the public turning to a strong leader to sort out the mess, which in turn would result in that strong leader establishing an authoritarian dictatorship, which would reduce the population to role of serf. The short version of his message being that any government interference in the markets, inevitably results in either fascism or communism. This work, coming out as it did in 1944, was clearly a reference to Nazi Germany and relied on the rise of Hitler as a model. Given that the Second World War, had just been fought against an Axis of Fascist States this message resonated with many people and could have led to a return to the free market property stage but for the fact that his presumptions and overall premise were simply wrong. Not only was and is it perfectly possible for government regulation and a strong and stable democracy to co-exist but is also entirely common for democracies to replace or reduce regulations, which are shown to have had a detrimental effect on a nation. The abandonment of detrimental directed regulations in most of the western world being the strongest evidence of the fallacy of Hayek’s theory.¹³⁵⁶

A final point about this fear mongering, which has persisted since the evolution of directed property stages. Not only have the effort to conflate government regulation with fascism and communism continued, but there has also been an effort to conflate the administrators of government regulations with the supporters of fascism and communism. The effect of this conflation is that public servants are often thought of as closet fascists or communists by the free market proponents. This invention of an enemy, is as unfair as it is effective. By portraying public servants in such a negative manner, free market proponents have successfully created a very negative connotation for the term “bureaucrat” which still survives today. How and why government employees can be viewed having such anti-democratic motives and low social worth; is as perplexing as it is irreconcilable particularly given the fact that many them transit between the public and private sector. To suggest the moment that a private employee enters public service they become authoritarian menace, instead of a someone dedicated to working for the public good, at best indicates wilful ignorance. Of course, for anyone who is prevented from unjust enriching themselves by a bureaucrat, it is possible that such a portrayal would be driven by intentional malice rather than wilful ignorance.

It should be noted that the regulatory authorities that were looking to find new more efficient methods of regulating the market were not oblivious to the fear mongering efforts of the free

¹³⁵⁴ It goes without saying the after the atrocities of both Hitler’s and Stalin’s authoritarian rule were exposed this spectre grew even larger.

¹³⁵⁵ Friedrich August Hayek, *The Road to Serfdom*, (Routledge Press, UK, University of Chicago Press, US, 1944)

¹³⁵⁶ That this proof should have been so evident to Hayek when he wrote the “Road to serfdom” it would seem to raise questions about his motives.

market proponents. Even before Hayek wrote his book, regulatory proponents were attempting to counter this perception. In 1937 Thurman Arnold,¹³⁵⁷ wrote “The Folklore of Capitalism”¹³⁵⁸ in which he tried to expose the myths being promoted by the free market proponents. In his final sentence of his book he writes:

‘The greatest destroyer of ideals is he who believes them so strongly that he cannot fit them to practical needs.’¹³⁵⁹

It was this effort to find a practical solution to practical needs that allowed the directed property stage to evolve into the restricted property stage. A stage in which Thurman Arnold was to play a key role in U.S. regulation.

14.3.3 Restricted Property Stage

The restricted property stage can be defined as the stage in which governments placed specific normative restrictions on the property rights. These restrictions replaced the directed regulations that were first utilized in response to the failure of the free market property stage. Unlike the directed regulations, these regulations did not tell property owners what they had to do with their property, but rather what they could not do. The evolution to this property stage being driven by two practical considerations and two theoretical considerations. The first practical consideration was a recognition by governments that they were not as capable of directing property utilizations as they had initially believed. The second practical consideration was the success of the legal challenges that questioned the constitutionality of the directed regulations. The first theoretical consideration involved a change in economic theory which saw classical economics, which had been challenged by Keynesian economics in the previous stage, being replaced by a more nuanced neo-classical economics in this stage. The second theoretical consideration was change in the legal understanding of property, which instead of defining property as a single element, defined it as a bundle of rights. While the practical considerations effectively brought about an end to the directed property stage, it was the theoretical considerations that allowed for an evolution to a new property stage, rather than a devolution back to the previous stage.

The recognition by governments that they were not as capable of directing property utilization was in some nations quite rapid and in others it quite slow. In America this recognition came quickly. As discussed in the National Industrial Recovery Act example used in the previous stage, within a matter of a few years the Roosevelt Administration recognised that their directed regulations were not working. There were two reasons why it was not working. The first reason was that the industrial committees were co-opted by big business to make rules in their favour. However, the second and more fundamental reason was that centralised decision making was never going to be as responsive and efficient as entrepreneurial decision making in most industries. To the extent that any industry was dynamic, any centralized process was obviously at a disadvantage to the actual industry participants in terms of deciding how best to make and

¹³⁵⁷ Thurman Arnold was a Washington, D.C. lawyer who is best known for his position as Assistant Attorney General, in charge of the Anti-Trust Division, of Department of Justice from 1938 to 1943. More of him in the following stage.

¹³⁵⁸ Thurman W. Arnold, *The Folklore of Capitalism* (New Haven, Yale University Press, 1937)

¹³⁵⁹ *Id.* 393

sell their products or services to consumers. However, a recognition of the limitation of directed property did not mean that the Roosevelt Administration was willing to return to the chaos of the free market that had ended so badly with the great depression. It was for this reason that it tried to forge a new regulatory route that relied on restricting rather than directing the behaviour of property owners. The idea being that; if the worst abuses of the free market could be constrained by restrictive regulations, the entrepreneurial energy of the nation could be harnessed in the interest of all citizens and not just a few powerful industrial barons.

In Europe the first nation to discard the major aspects of directed property was surprisingly, West Germany.¹³⁶⁰ This was surprising because after their defeat in the WWII, the allies who controlled the western part of the nation were for the most part committed to a directed property stage not only in Germany, but also in their home countries. They believed that only a strict enforcement of wage and price controls would keep this part of Germany from the economic ruin, which would result in it falling into the hands of the communists. To this end the Allied forces put in place a model of a centralized directed economy after the end of the war, which remained in place until June of 1948.

Despite the conviction of the Allies, after a few years it was widely recognised that this model was failing to provide the desired recovery of their economy and was in fact driving much of the economy into the much less efficient underground market. To their credit, it was the Germans that came up with their own solution. Rather than returning to a free market economy or adopting a communist economy; they instead choose what they termed the third route, a capitalist-based economy with a social conscience. It was on June 21st, 1948 that this choice was implemented. On that day the West German authorities not only replaced the devalued currency, but they also abolished all wage and price controls. This action was not entirely supported by the Allies, who while approving the currency replacement had not endorsed the removal of the wage and price controls. While both the Americans and the British acquiesced to the removal of wage and price controls, the French did not. The result of these action was that almost overnight, goods that had been missing from the shelves of the stores suddenly appeared. Only in the French quarter did conditions not improve as rapidly, which went a long way to proving the efficiency of a regulated free market, over a directed market and is why the reforms were adopted for all of West German after its formal creation in 1949.

In the much of the rest of Europe elements of a directed economy were maintained for a longer period; with many industries that were nationalized under the directed property stage remained in government ownership well into the 1980's. This does not however mean that the directed property stage was the dominate stage during that time. Rather it was a combination of directed and restricted property with restrictive regulations being the dominate form of governance.

In terms of the legal challenges, by far the most important challenges occurred in the United States of America. It has to be recalled that during the directed property stage, many of the American courts were hostile to this form of government interference in the economy. On the Supreme Court this hostility took the form of four Justices, Pierce Butler, James Clark

¹³⁶⁰Although West Germany did not exist at this time and was still just an amalgamation of the three Allied Zones occupied by Americans, French and the British, the use of the term West Germany is appropriate for it was introduction of a new currency and the abandonment of the wage and price controls that were the first real independent acts of the new West German government. West Germany or more accurately the Federal Republic of German was created in May of 1949.

McReynolds, George Sutherland, and Willis van Devanter, who were ideological protagonists opposed to any New Deal legislation. Usually they based their opposition on the premises that directed regulations infringed on constitutional protected property rights¹³⁶¹ or alternatively on constitutionally protected freedom to contract rights.¹³⁶² These justices were later joined in their opposition by swing voters Chief Justice Charles Evans Hughes and Justice Owen J. Roberts, who tended to oppose the legislation of efficiency grounds rather than on ideological grounds. The remain three Justices, Louis Brandeis, Benjamin Cardozo, and Harlan Stone were generally more ideologically supportive of New Deal legislation but also joined in opposition to certain overreaching elements of it.

After initially providing majority support for certain parts of the New Deal legislation¹³⁶³ the Supreme court swung into opposition in 1935 as it become clear that the legislation it was not having the desired economic effect. The most obvious and defining evidence of this hostility was *Schechter Poultry*,¹³⁶⁴ in which a unanimous Supreme Court rejected as unconstitutional the administration's authority to impose its definition of unfair competition, which was the centre piece of the National Recovery Act.¹³⁶⁵ However there were a number of other cases that demonstrated the judiciary's hostility towards directed regulations.¹³⁶⁶ A good summary of the Supreme Courts opposition in these cases can be found in the majority opinion written by Justice Sutherland in *Carter v Carter Coal Company*¹³⁶⁷:

'The ruling and firmly established principle is that the powers which the general government may exercise are only those specifically enumerated in the Constitution and such implied powers as are necessary and proper to carry into effect the enumerated powers. Whether the end sought to be attained by an act of Congress is legitimate is wholly a matter of constitutional power, and not at all of legislative discretion. Legislative congressional discretion begins with the choice of means, and ends with the adoption of methods and details to carry the delegated powers into

¹³⁶¹ United States Bill of Rights, Fifth Amendment to the Constitution, "No person shall ... be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation."

¹³⁶² United States Constitution, Article I, section 10, clause 1, "No State shall... pass any Bill of Attainder, ex post facto Law, or Law impairing the Obligation of Contracts,"

¹³⁶³ In *Home Building & Loan Assn. v. Blaisdell* 290 U.S. 398 (1933) the Court recognised that legality of administrative powers in an emergency. "While emergency does not create power, emergency may furnish the occasion for the exercise of power." Hughes, 290 U.S. 398, 426. In *Nebbia v. New York* 291 U.S. 502 (1934) the Court recognised the right of the government to regulate property in the public interest. "neither property rights nor contract rights are absolute, for government cannot exist if the citizen may at will use his property to the detriment of his fellows, or exercise his freedom of contract to work them harm. Equally fundamental with the private right is that of the public to regulate it in the common interest." Roberts, 291 U.S. 502, 523

¹³⁶⁴ *Schechter Poultry Corp. v. United States*, 295 U.S. 495 (1935)

¹³⁶⁵ *National Industrial Recovery Act*, P.L. 73-67, 48 Stat. 195 (1933)

¹³⁶⁶ Before *Schechter* the Court in *Panama Refining Co. v. Ryan* 293 U.S. 388 (1935) decided that the delegation of powers under the National Industrial Recovery Act were unconstitutional. In the next New Deal related case after *Schechter* a majority of the Court decided in the *United States v. Butler*, 297 U.S. 1 (1936) that processing taxes instituted under the Agricultural Adjustment Act, 48 Stat. 31 (1933) which was intended to reduce an oversupply of farm goods was unconstitutional. In *Louisville Joint Stock Land Bank v. Radford*, 295 U.S. 555 (1935) a unanimous Court ruled that provisions of the Federal Farm Bankruptcy Act, 48 Stat. 1289 (1934) which provided farm owners with a five year grace period to recover their land from bankruptcy represented an unconstitutional taking of property from the mortgage lenders in violation of the Fifth Amendment. In *Carter v. Carter Coal Company*, 298 U.S. 238 (1936), a five justice majority found that legislation included in Bituminous Coal Conservation Act, 49 Stat. 991 (1935) was unconstitutional as it violated private property rights.

¹³⁶⁷ *Carter v. Carter Coal Company*, 298 U.S. 238 (1936),

effect. The distinction between these two things — power and discretion — is not only very plain, but very important. For while the powers are rigidly limited to the enumerations of the Constitution, the means which may be employed to carry the powers into effect are not restricted, save that they must be appropriate, plainly adapted to the end, and not prohibited by, but consistent with, the letter and spirit of the Constitution. *McCulloch v. Maryland*, 4 Wheat. 316, 421. Thus, it may be said that, to a constitutional end, many ways are open, but to an end not within the terms of the Constitution, all ways are closed.

The proposition, often advanced and as often discredited, that the power of the federal government inherently extends to purposes affecting the nation as a whole with which the states severally cannot deal or cannot adequately deal, and the related notion that Congress, entirely apart from those powers delegated by the Constitution, may enact laws to promote the general welfare, have never been accepted, but always definitely rejected, by this court.¹³⁶⁸

To the extent that this quote represents the general attitude of the Supreme Court with respect to directed regulations intended to promote the general welfare of the nation, it is fairly clear that the continuation of such a regulatory regime was “closed” as far as this Court was concerned.

Before moving on to the theoretical rational for the adoption of the restricted property stage, it is important to note that this Supreme Court did not exhibit the same consistent hostility towards restrictive regulations. For example, in *Morehead v. New York ex rel. Tipaldo*¹³⁶⁹ the Court decided that State governments had no right to interfere in wage contracts by setting minimum wage regulations for women working in a laundry. However, one year later in *West Coast Hotel Co. v. Parrish*¹³⁷⁰ they ruled that a State could interfere in wage contract if it was to protect the health and safety of its people. To the extent that these two wage cases appear to be in direct contradiction with one another, the Court justified its decision in the previous case by suggesting that minimum wage legislation was more arbitrary than the one they ruled acceptable.

In reality the decision in the latter case was more than likely influenced, not by the merits of the case, but by the threat from the Roosevelt Administration to enlarge and stack the Court with progressive justices if the Court continued to invalidate legislation intended to promote the general welfare of the nation. This and subsequent decision supporting restrictive regulations appear to represent a compromise between the Court and the Administration, in which the

¹³⁶⁸ *Id.* Sutherland, 298 U.S. 292

¹³⁶⁹ *Morehead v. New York ex rel. Tipaldo* 298 U.S. 587 (1936) “The right to make contracts about one's affairs is a part of the liberty protected by the due process clause.... In making contracts of employment, generally speaking, the parties have equal right to obtain from each other the best terms they can by private bargaining.” *Butler*, 298 U.S. 587, 610

¹³⁷⁰ *West Coast Hotel Co. v. Parrish* 300 U.S. 379 (1937) “ But it was recognized in the cases cited, as in many others, that freedom of contract is a qualified, and not an absolute, right. There is no absolute freedom to do as one wills or to contract as one chooses. The guaranty of liberty does not withdraw from legislative supervision that wide department of activity which consists of the making of contracts, or deny to government the power to provide restrictive safeguards. Liberty implies the absence of arbitrary restraint, not immunity from reasonable regulations and prohibitions imposed in the interests of the community.” *Hughes*, 300 U.S. 379, 391

Administration abandons directed regulations and the Court is more cautious about invalidating restrictive regulations.

In terms of a shift in the economic theory underlying this new property stage it has to be recognised that Keynesian economics was at the heart of both the directed property stage and the restricted property. However, it also has to be recognised that the interpretation of Keynesian theory was very different during these two stages. For the most part this change in interpretation reflected a much humbler approach to the ability of government to manage the micro economic affairs of industries.¹³⁷¹ While Keynesian economics may have been at the forefront of the economic thought there were a number of other economists that provided important contributions to this property stage. One of the most important of which was Wilhelm Röpke¹³⁷². Röpke was a German National who took refuge in Switzerland during the Nazi regime. It was while he was in Switzerland that he developed what he referred to as a “Third Way” for pragmatic economic development. According to Röpke, nations did not have to make the false choice between communism and free market capitalism, both of which he viewed as having substantial shortcomings when it came to protecting the welfare of ordinary citizens. On communism (or socialism as it was called in his day), he wrote;

'Socialism can be nothing but destructive of freedom in the widest sense of the work. It wants to crown the work of emancipation, yet can result in nothing but the most abject subjugation of the individual.'¹³⁷³

On free market capitalism he wrote:

'Yet there can scarcely be any doubt that sooner or later man would have revolted against an economic system which...has unfortunately been allowed to develop: its instability; its lack of social justice; the growing opportunities for monopolistic enrichment and the blackmailing policies of special interests; the faulty functioning of many individual markets; proletarianization, commercialization and concentration of power, excess of speculation and destruction of capital; the insensate and unnatural way of life imposed on men against which they finally rebel, driven by a vague feeling of discontent and lured by nebulous goals.'¹³⁷⁴

For Röpke the problem with the free market advocates was that they;

'refused to see that a market economy needs a firm moral, political and institutional framework (a minimum standard of business ethics, a strong state, a sensible “market police,” and well weighed laws appropriate to the economic system), if it is not to fail

¹³⁷¹ Something which Keynes never advocated in the first place.

¹³⁷² There were of course other economists that held similar views, but had have such a dramatic influence on the economic affairs of a nation during this stage and many were considered economic practitioners focused on developing models that explaining the intricacies of modern neo-classical economics rather than economic theologians. However, it is simply impractical to detail all of these economists and their contributions here.

¹³⁷³ Wilhelm Röpke, *The Social Crisis of Our Times* first published (Switzerland, Eugen Rentsch Verlag 1942), Chicago University of Chicago Press 1960) p 87

¹³⁷⁴ *Id.* 18-19

and at the same time destroy society as a whole by permitting the unbridled rule of vested interests.¹³⁷⁵

Instead of advocating for one of these two false choices Röpke advocated for a more companionate or Christian form of capitalism, that recognised the rights of all members of a society. What this meant in practical terms was ending the “industrial feudalism” of big business; not by replacing it with “state feudalism”, but rather by breaking up those businesses and replacing them with smaller enterprises. His belief was that a return to smaller enterprises would create an environment where businesses would be forced to compete for customers, rather than having a monopoly that allowed them to avoid competition. To be clear this view did not in any way advocate regulating big business using directed regulation. As far as directed regulation was concerned Röpke viewed this as just another weaker form of a planned economy that he so harshly condemned in its more extreme communist form. For him the only appropriate regulation were ones that were comparable to traffic rules; which rather than dictating where drivers should be on the road, only provide rules for driving on the road that ensured the safety of other drivers and pedestrians. While the model for his theory was the economic environment that he observed in Switzerland, it was his advocacy for and the eventual the adoption of this Third Way in West Germany, that made him one of the most important economists in Europe.¹³⁷⁶ Indeed it was mainly as a result of his work that West Germany abandoned directed regulations and adopted a restrictive regulatory regime intended to prevent monopoly abuses, while protecting the inherent benefits of the capitalistic system.¹³⁷⁷

While the advances in economic theory supported an evolution towards a restrictive regulatory regime, there was also was a change in the legal conception of property that enhanced the possibility for such a change to be accepted by the Courts. This change in legal perception shifted the court’s interpretation of property from one that revolved around the idea that property represented an item of unitary ownership with an implied understanding of absolute dominion, to one that interpreted property as a bundle of legal relationships that could be separated into individual rights and duties. One of the most significant contribution to this new theory of property was from a professor at Stanford Law School, Wesley Newcomb Hohfeld. In a famous article “*Some Fundamental Legal Conceptions as Applied Judicial Reasoning*” published in 1913, he argued that property does not consist of things but rather a distinct set of legal relationships. While Hohfeld’s article was primarily intended to differentiate between the legal terms used to describe various legal relations, it was perhaps more significant in that it

¹³⁷⁵ *Id.* 52

¹³⁷⁶ Wilhelm Röpke, “The ending of industrial feudalism west of the Elbe means today the same as in 1918—the ending of the monopoly of the heavy industries and a radical change in the economic policy (Customs, cartel law, and so on) to which the German heavy industries owed their morbidly monstrous growth and their monopoly position. Similar steps are required for the other powerful elements in German industry” *Die Gesellschaftskrisis der Gegenwart* art (4th edition, pp. 364) and *Civitas humana* (Zurich edition, pp. 293).

¹³⁷⁷ It should be noted that Röpke has often been referred to as part of the Austrian School of economics which adamantly advocates for the free market. However, his views on big business and the need to provide a companionate form of capitalism definitively place him on the fringes of the School if not outside its ideology. He certainly did not agree with the notion of the neo-classical school which seem to believe in an absolute right to profit maximisation. Which is just as well because Röpke was much more of a pragmatist than an ideologist, for as far as ideology was concerned Röpke consider it to be a tool for enabling the willing participation of those that were being subdued. “Since they [tyrannies] cannot rely on naked force alone, they require for their existence an uncritically accepted system of ideas (an ideology) which, extending subjugation to the soul, turns the oppressed into willing subjects and accessories of their rulers.” *The Social Crisis of Our Time.* 40

crystallised the notion of that property was not a unitary concept but rather a complex set of relationships which could be separated into individual rights and corresponding duties.

The significance of this new paradigm from the context of the regulated property stage was twofold. First by defining property as a bundle of individual rights; it allowed some rights to be negated, while whilst keeping the majority of rights intact. This to a large extent extinguished the ability of previously absolute right property holders to claim that any restrictive regulations were violations of the very essence of their property. Second correlative duties associated with property rights could be expanded to include a duty to protect the interest of both other private parties and the public. To the extent that restrictive government regulations were framed as an attempt to protect the public, they could therefore be viewed not as negation of a right, but rather the enforcement of an inherent duty.

It is worth noting that although Hohfeld published his work in 1913, it was not until 1938 that the American Law Institute adopted the bundle of rights concept in its *Restatement of Law* which defined property defines “real property” as one of a number of present possessory estates and an “owner” as the person who has one or more interests.¹³⁷⁸ Given that the American Law institutes’ Restatements purport to state the law as it exists in the United States, 1938 would appear to be a watershed date for this interpretation of property. This timeline matches nicely with the ongoing evolution from the directed to the restricted property stage in America as it was like about this time that restrictive property became the dominate form of property in the country.

While it might have been in 1938 that regulated property became the dominate form of property in America, this does not mean that it did not exist before that date. On the contrary there have been both common law and statutory restriction placed on the use of property in most countries for centuries. However, it was at this time, or shortly before it that governments began to actively develop and implement statutory law with the specific intention of using such laws to advance the economic efficiency of the nation.

The least controversial of these regulations were those that prohibited what can only be described as corrupt capitalism. Behaviour falling into this category would be activities like, corporate fraud,¹³⁷⁹ insider trading,¹³⁸⁰ and bribery.¹³⁸¹ Next category of restrictive regulations which had broad, but not universal support, were the regulations restricting the mistreatment of workers. These include regulations governing minimum wage and working conditions,¹³⁸² including the protection of unions.¹³⁸³ The final much more controversial set of regulation involved the restricting the actual behaviour of the business firm in the market. Sometimes this was done with industry specific regulation such as those applied to the banks under the Glass–Steagall Act.¹³⁸⁴ But the bulk of these restrictions came through rules made by competition authorities like the Antitrust Division at the United States Department of Justice.

In America, no one was more central to this rise of the regulation of business behaviour than Thurman Arnold, who was tasked by President Roosevelt to head the Antitrust Division of the

¹³⁷⁸ Restatement of the Law of Property of 1938 (§ 7, § 10)

¹³⁷⁹ Securities Exchange Act of 1934 (15 USCA §§ 78a et seq.)

¹³⁸⁰ Securities Act of 1933, Ch. 38, Title 1, 48 Stat. 74 (1933)

¹³⁸¹ Surprisingly insider dealing (self-dealing) that was the heart of the corruption was not criminalized during this period.

¹³⁸² Fair Labor Standards Act of 1938, 52 Stat. 1060 (1938)

¹³⁸³ National Labor Relations Act, 29 U.S.C. §§ 151-169

¹³⁸⁴ Banking Act of 1933, 73-66, 48 Stat. 162,

Justice Department in 1938. During the next five years as Assistant Attorney General in charge of the Antitrust Division, he practically single handedly revived antitrust laws and enforcement which had been neglected in the 1920s and abandoned in early part of the New Deal. Thurman Arnold was convinced that the great depression was caused by property owners that distorted the market for their benefit by restricting the distribution of goods.¹³⁸⁵ It was this restraint of trade that he was determined to bring to an end and he would do this by using the antitrust laws to protect the ideals of a free market from the power of "private feudal combinations". To the extent that Thurman Arnold maintained his unequivocal resolve to enforce antitrust laws throughout his tenure as head of the Antitrust Division, he must be viewed as a pioneer and central contributor to that creation of the regulated property stage.

This belief in the necessity to "free the market" from trade restraints was not the only thing that made Thurman Arnold different from previous heads of the Antitrust Division. What made him different and ultimately much more effective was his conviction that whenever antitrust laws were enforced they had to be enforced simultaneously on all parties, at all levels of an industry.¹³⁸⁶ This conviction was not based on the belief that all property owners in a given industry were guilty of criminal intent, but rather a practical recognition that restraints on trade were so pervasive that restricting one parties and not the others would be unfairly discriminating against that party and more importantly not have the desired effect of changing the mindset of industry players. The major problem he faced in instituting this broad level of enforcement was the limited resources available inside the Division, so rather than examining all industries at the same time he began by focusing his recourses on one industry at a time. The idea being that once the antitrust laws had been successfully enforced in one industry, the Division could move on to another industry, and more importantly the prosecution in that first industry would serve as a cautionary tale for similar behaviour in other industries.

Another important aspect of Thurman Arnold's approach was that the proper method for removing trade restrictions was to have the Division act as a public prosecutor using the courts to uphold the law rather than setting up a new Agency making law.¹³⁸⁷ This of course was a dramatic shift from the previous actions of the National Recovery Agency. It was through the use of the courts that he hoped to legitimise the regulatory restrictions which he wanted to use to prevent private restraint of trade practices, while at the same time avoiding the inevitable accusation of political partisanship. When enforcing the antitrust laws through the courts it made no difference the size of the organization. To be clear the objective of his enforcement actions was intended not to eliminate big business, but rather to enhancing the efficiency of the marketplace for the benefit of the nation at large.¹³⁸⁸ Indeed this objective of enhancing

¹³⁸⁵ Thurman W. Arnold, *The Bottlenecks of Business*, (Washington, Reynal and Hitchcock, 1940) 9: "Ten years of experience since the beginning of the great depression have demonstrated that we have made extraordinary strides in invention and in efficiency of organised production. It is the economic machinery of distribution which is stalled."

¹³⁸⁶ *Id.* 191: "The most effective antitrust enforcement consists in prosecuting simultaneously all of the restraints which hamper the production and distribution of a product from raw material to consumer."

¹³⁸⁷ *Id.* 144: "At this point it should be emphasised that the Antitrust Division has never been delegated quasi-judicial power. It cannot make a decision which will have in court even *prima facie* bearing on what the law is. It has no authority to *approve* anyone's plans for combination. That power lies only in the courts."

¹³⁸⁸ *Id.* 3-4: "Most books in the past on the antitrust laws have been written with the idea that they are designed to eliminate *the evils of bigness*. What ought to be emphasised is not the evils of size but the evils of industries which are not efficient or do not pass efficiency on to consumers. If the antitrust laws are simply an expression of a religion which condemns largeness as economic sin they will be regarded as an anachronism in a machine age. If however, they are directed at making distribution more efficient, they will begin to make sense, and, incidentally, they will also solve the problem of bigness wherever bigness is blocking the channels of trade."

efficiency through the enforcement of antitrust laws was equally available to big business, when they were threatened by illegal restraint of trade behaviour.¹³⁸⁹

As to the actual regulatory restriction included in the antitrust laws during Thurman Arnold's time, these simply involved enacting existing regulations set out in the Sherman Act of 1890,¹³⁹⁰ the Clayton Act first enacted in 1914,¹³⁹¹ and significantly amended in 1936 by the Robinson-Patman Act¹³⁹², and the Federal Trade Commission Act¹³⁹³ of 1914. Of these the Acts, Thurman Arnold was most focused on was the Sherman Act, which was the first and most significant of the antitrust laws.

To understand the Sherman Act; it has to be understood that the Act itself does not prohibit specific business practices, but instead instituted a general regulation prohibiting; agreements in the restraint of trade and monopolize or attempt to monopolize trade. The actual language of the Act with respect to these prohibitions are as follows:

'Sec. 1. "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal."

Sec. 2. "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce... shall be deemed guilty of a misdemeanor."¹³⁹⁴

As discussed earlier the problem with this language is that it is so broad that if taken to extremes it could make illegal all business agreement, because inherent in every business agreement at least a minimal restraint of trade. To resolve this problem the courts interpreted the Act as forbidding only unreasonable restraints of trade,¹³⁹⁵ and instituted a practice called the rule of reason to determine which restraints of trade were unreasonable. Under the rule of reason, the courts were supposed to consider the makeup of the industry, the defendant's position in the industry, the defendant's purpose for engaging in the behaviour and the ability of the defendant's competition to respond to their challenged behaviour. While the rule of reason represents a practical solution to an overly general regulation it too had problems

¹³⁸⁹ *Id.* p 118-120 In these pages Thurman Arnold illustrated the potential of antitrust laws to be used by big business by illustrating the concerted industry action against Henry Ford when he first started to make cars using assembly line production. This restrictive trade practice being evidenced in a letter from the Automobile Association to Ford. "Mr Ford, we are not going to let you make cars. In the first place you have every appearance of being a ruinous price cutter.... I you start a price war you will destroy the confidence of the splendid business leaders who now dominate the industry and who are all for one and one for all." For Thurman this restraint of trade against Ford's car business was just as illegal as if it had been perpetrated against a smaller competitor.

¹³⁹⁰ The Sherman Antitrust Act, 26 Stat 209 (1890)

¹³⁹¹ The Clayton Antitrust Act, 38 Stat. 730 (1914)

¹³⁹² The Robinson-Patman Act or Anti-Price Discrimination Act, 49 Stat. 1526 (1938)

¹³⁹³ The Federal Trade Commission Act, 38 Stat. 717 (1914)

¹³⁹⁴ *Id.* Note 835

¹³⁹⁵ *United States v. Trans-Missouri Freight Ass'n*, 166 U.S. 290 (1897) "Its title is, "An act to protect trade and commerce against unlawful restraints and monopolies." The word "unlawful" clearly distinguishes between contracts in restraint of trade which are lawful and those which are not -- in other words, between those which are unreasonably in restraint of trade, and consequently invalid, and those which are reasonable, and hence lawful." 166 U.S. 328; *Standard Oil Co. of New Jersey v. United States* 221 U.S. 1, 31 S. Ct. 502, 55 L Ed. 619 (1911) "The Anti-Trust Act contemplated and required a standard of interpretation, and it was intended that the standard of reason which had been applied at the common law should be applied in determining whether particular acts were within its prohibitions." 221 U.S. 4

because initially, it was so subjective that it allowed courts to find all restraints of trade reasonable. For example, in the 1933 *Appalachian Coal* case,¹³⁹⁶ the Supreme Court found that a price fixing scheme organized by Appalachian coal mines which represented 74% of production in the region, was reasonable because it prevented destructive competition between the miners. If such clear restraint of trade was not a breach of the Sherman Act, then the Act itself would represent little more than an inkblot in the Code of Laws of the United States. While lack of specificity may have hindered the Sherman Act's implementation in prior decades, Thurman Arnold believed that the flexibility of a regulation providing general principles was a good thing.¹³⁹⁷ This because the same flexibility which allowed earlier courts to eviscerate the Act, provided the flexibility needed to adapt the regulation to the constantly evolving methods of restraining trade in later courts, once they became less sympathetic to the free market ideology.

Ironically Arnolds efforts to revive antitrust law were greatly assisted by the non-enforcement in the previous decades as few businesses felt the need to hide their anticompetitive activities. This meant that when he took office there were several openly anticompetitive activities that he could immediately take to the courts without extensive investigation efforts. His first industry wide large case involved the big car companies who had been coercing their dealers to finance car purchases through their own finance companies, rather than through independent finance companies. While a judge in Wisconsin threw out the first attempt to bring an action, Thurman Arnold had a much better response from a grand jury which issued an indictment in five days. Included in the indictment were a total of 86 firms the most important of which were the big three car companies; Ford, Chrysler and General Motors. When these indictments were made public the Department of Justice announced that they were willing to listen to voluntary offers to resolve the anticompetitive behaviour under a consent decree. Within a few weeks all but one of the major companies approached and negotiated with the Antitrust Division civil consent decrees, that ended the anticompetitive behaviour without having to prosecute behaviour in court.¹³⁹⁸ This was to prove the model for future antitrust investigations initiated by the Antitrust Division. For it was through consent decrees, (which were always subject to court approval), that the majority of the antitrust actions during Thurman Arnold time at the head of Antitrust Division were resolved.

However, in the absence of a court approved consent decree Thurman Arnold's Antitrust Division had no hesitation in pursuing prosecutions. Such was the case in another early industry investigation of the motor fuel industry. In that industry the Antitrust Division investigation revealed that through the use of a patent on a fluid called Ethyl,¹³⁹⁹ a combination of the Ethyl Corporation¹⁴⁰⁰ and various refineries were able to control the price and distribution of over 85% of motor fuel. They did this by restricting ethyl sales to refiners that were willing to follow the marketing practices and posted prices set by the major oil companies. In 1940 this blatant price

¹³⁹⁶ *Appalachian Coals, Inc. v. United States*, 288 U.S. 344 (1933)

¹³⁹⁷ Arnold, *The Bottlenecks of Business*, 132: "Nor can the Sherman Act be a catalog of specific rules... This means we must have a clearly defined general principle which is understandable to layman and which is elastic enough to be applied to different industrial situations in a common sense way."

¹³⁹⁸ The one holdout was General Motors which was convicted by a district court of violating the Sherman Act on November 17, 1939. General Motors appealed to the Circuit Court of Appeals for the Seventh Circuit, *United States v. General Motors Corp.*, 121 F.2d 376 (1941) On May 1, 1941, that Court affirmed the conviction, and on July 2, 1941, denied rehearing. A petition for certiorari was denied on October 13, 1941. 314 U.S. 618.

¹³⁹⁹ Ethyl is added to gasoline enhance the make it more efficient for high compression engines.

¹⁴⁰⁰ The Ethyl Corporation being jointly owned by the Standard Oil Company of New Jersey, the General Motors Corporation, and the Du Pont interests.

fixing scheme was declared illegal by the Supreme Court.¹⁴⁰¹ This Supreme Court decision in the Ethyl case had an even greater impact than the auto financing consent decree, because it helped to illustrate to the both industries, and the general public at large, the fact that there were laws in place that could and would be used to prevent illegal restraint of trade. As such the case not only provided a cautionary tale for all other industries and their lawyers, it also encouraged victims of those practices to stand up to fight against them.

This is precisely what happened in the eyeglass industry, after the Ethyl decision was announced. Like in the motor fuel industry the price of spectacle was controlled through patent holders refusing to licence distributors that engaged in price competition. This had meant that the average cost of a pair of spectacles prior to the Ethyl decision was about 20 dollars. However almost immediately after the Ethyl decision, some spectacle distributors began to advertise those same spectacles for \$7.50. The fact that these new prices were related to the Ethyl decision was clearly evident in fact that the same advertisements that promoted the new prices, specifically attributed their ability to offer these new lower prices to the Supreme Courts Ethyl decision.¹⁴⁰²

But it was not just in a few industries that the effects were evident. Throughout the country literally hundreds of industries began reconsidering their behaviour in light of the active enforcement of antitrust laws. Often that reconsideration was driven by actual investigations,¹⁴⁰³ but just as often it was done simply because there was now a credible legal threat to anticompetitive behaviour that could no longer be ignored. The net effect of these enhanced enforcement efforts was as dramatic, as it was immediate. Thurman Arnold explained the effects as follows:

'Figures on what antitrust enforcement actually saves are necessarily based on an estimation of what the prices would have been without an investigation. They are useful only as guesses. However, it is significant that during the period when all communities the supply of which is affected by the war were rising, the particular war products under investigation by the Department did not increase in price. It is estimated that investigations of newsprint, potash, nitrogen, and steel which cost \$200,000 have saved the consumers of this country \$170,000,000.'¹⁴⁰⁴

Thurman Arnold's analysis was of course looking only at the benefits of this new regulatory environment during the first two years of its enforcement and as such it may have simply represented a short-term economic anomaly. To truly determine the true economic impact of this regulatory environment it is necessary to examine a much lengthier period of time.

It can be argued that the most appropriate period for judging the economic efficiency of regulated property stage would be the first 15 years after the end of the WWII. This post war period is the most appropriate because during the period; antitrust laws continued to be actively

¹⁴⁰¹ Ethyl Gasoline Corp. v. United States, 309 U.S. 436 (1940) "Agreements for maintaining prices of articles moving in interstate commerce are, without more, unreasonable restraints within the meaning of the Sherman Act because they eliminate competition, and agreements which create power of such price maintenance, exhibited by its actual exertion for that purpose, are in themselves unlawful restraints within the meaning of the Sherman Act. P." 309 U.S. 458.

¹⁴⁰² Arnold, *The Bottlenecks of Business*, 29

¹⁴⁰³ During Thurman Arnold's first year as the head of the Antitrust Division the Division had received 1375 complaints, had 213 cases pending involving forty industries, with 185 continuing investigations in process.

¹⁴⁰⁴ Arnold, *The Bottleneck of Business*, 77

enforced, and the economic effects of the "Great Society" were yet to be felt. Before discussing the economic development during this period, it should be noted that there was a great fear that the end of World War II and the subsequent drop in military spending might bring back the hard times of the Great Depressions. This fear was not without merit, as during the war the military expenditure exploded from 2% of GDP in 1940, to a peak of 42% in 1945 and then back down to 7% by 1947.¹⁴⁰⁵ That there was such a dramatic decline in military expenditure could have on its own precipitated an overall decline in the economic activity of the country. However much to the surprise of many, this economic decline did not happen. Instead between 1945 and 1960 the overall economic activity of the country expanded dramatically, with the gross domestic product of America growing from about \$200 billion in 1945, to almost \$300 billion in 1950, and to more than \$500 billion by 1960.¹⁴⁰⁶ While there were other policies that contributed to this rise,¹⁴⁰⁷ there can be no denying that the elimination of the restrictive trading practices that had kept the prices of houses, cars, and other household items out of the reach of ordinary Americans had a significant and positive impact on the overall economy. That ordinary Americans were now able to afford the products that they produced meant; increases in demand, that required additional production, which required more workers, and once again stimulated demand. This virtuous circle of competitively priced products, and people being paid enough to afford them, was the opposite of the circumstance that led to the Great Depression.¹⁴⁰⁸

14.3.4 Supervised Property Stage

This stage is called the supervised stage because in this stage the "per se" rules which prohibited certain form of behaviour, were replaced by "rule of reason" which was intended to punish abusive behaviour. The idea being that governments would supervise industries but not interfere with them so long as there was no abusive behaviour. The history of its development is as follows.

Given the enforcement of anti-trust regulation had such a positive effect on the American economy, it is no wonder that the vast majority of democratic countries in the world instituted similar legislation. However, this new restricted property stage was not without its critics. First and foremost amongst those critics were the free market proponents and large property owners that lamented the loss of their absolute rights to property which had so dominated the free market property stage. For them the government interference in even one stick of their bundle of rights was ideologically unacceptable regardless of whether the restricted property stage was more economically efficient than the free market stage. However, because, at least initially the restricted property stage was so much more economically efficient, their influence on government policy had to wait until the abuses of the free market stage were forgotten by the public at large. In terms of successful attacks on the actual antitrust regulations, this meant they had to wait until the late 1970's. By that time not only were the abuses of the free market stage

¹⁴⁰⁵ U.S. Census Bureau, Historical Statistics of the United States: From Colonial Times to 1970 (1975)

¹⁴⁰⁶ *Id.* F 1-9

¹⁴⁰⁷ The most notable policy would have to be the Montgomery G.I Bill which was passed in 1944 that gave government grants to any returning service man that wanted to return to school.

¹⁴⁰⁸ This comparison being based on the fact that in the five years before the Great Depression wages stagnated even though productivity increased by more than 25%.

forgotten, but the proponents of the restricted property stage had overextended the reach of restrictive regulations in a way that did not always enhance economic efficiency.

The most successful critic of antitrust regulations was the federal judge, Robert H. Bork. In 1978 he wrote "The Antitrust Paradox"¹⁴⁰⁹ which was to become a standard free market proponents reference book for refuting the advantages of antitrust regulations. In this book Judge Bork acts not as an unbiased judge but rather as a free market apologist who is bent on discrediting any benefits resulting from antitrust laws. The way in which he does this is to first describe an idealized free market world where antitrust laws are unnecessary and then provided isolated instances in this idealised world where antitrust rules are harmful to efficiency. An example of the idealized free market world that Judge Bork and other free market proponents use can be found in his description of the financial industry. On this industry he writes;

'The general idea that of the capital market being more imperfect than other markets is, of course, patently implausible, ... imperfection theorists would have to explain why capital will not flow to profitable uses, ... Nobody has troubled to explain that form of irrationality in capital suppliers, and we are justified in believing that it does not exist'¹⁴¹⁰

This quote is typical of the idealized concept that the free market proponents have with respect to market forces, and indeed if they were correct it would be a valid argument for the redundancy of antitrust laws. However, as history has shown, time and time again, the capital markets are far from perfect and they regularly make significant mistakes that can act to the detriment of society as a whole. The latest example of this imperfection was of course the recent subprime lending fiasco which put threatened entire world economy in 2008.¹⁴¹¹ To the extent that Judge Bork and other free market proponents wilfully ignore real world facts in favour of their ideological beliefs, this should have been sufficient to disqualify their contribution to regulatory debate as mere apologists for a free market belief system. However it did not, and it did not because they rely on the same wilful disregard for real world facts which was in the examples that Bork used in demonstrating ineffectiveness of specific antitrust rules. With respect to these specific rules Bork and the other free market proponents found isolated examples of the ineffectiveness of individual rules, and then inferred that because these rules were not effective in certain circumstances, they were not valid in any circumstances.

An example of this type of logic can be found in Judge Bork's discussion of product tie-in restrictions usually considered illegal under antitrust rules. Tying exists when a seller of product "A" requires that any if its customers that want to purchase product "A" also agree to purchase product "B". The purchase of product "A" is therefore "tied" to the purchase of product "B". On this behaviour Judge Bork argued that there are instances where tying might not result in anticompetitive efficiency losses. These include cases where tying was used to; '(1) avoid price regulation, (2) price discrimination, (3) non-discriminatory measurement of use, (4) economies

¹⁴⁰⁹ Robert H. Bork, *The Antitrust Paradox, A Policy at War with Itself*, (Free Press, 1978) (Simon & Schuster, 1993)

¹⁴¹⁰ *Id.* p 147

¹⁴¹¹ It is interesting to note that after the 2008 crisis, one of Judge Bork's most dedicated followers and the present day free market champion, Judge Richard Posner, had to admit that free market had failed. "The mistakes were systemic — the product of the nature of the banking business in an environment shaped by low interest rates and deregulation rather than the antics of crooks and fools." Posner, *The Failure of Capitalism* (Harvard University Press, 2008)

of scale, and (5) technological interdependence or the “protection” of goodwill”.¹⁴¹² While his analysis of the efficiency of tying in these situations may have some merit, even that merit can be disputed because it relies on the existence of a nonexistent perfect market. However, there is a bigger dispute which results from the conclusion that he draws from these isolated examples. For after describing these disputed examples he goes on to condemn all antitrust tying restriction. He does this by inferring that like his analysis, all analysis of tying restrictions have concluded that tying restrictions have come to the same conclusion.

‘The law’s theory of tying arrangements is merely another example of the discredited transfer of power theory, and perhaps no other variety of theory has been so thoroughly and repeatedly demolished in the legal and economic literature.’¹⁴¹³

This inference is misleading both on a practical and theoretical basis. From a practical prospective; it is misleading because there are numerous examples of how tying can foreclose competition in a market¹⁴¹⁴ and there are a range of court cases that determined that tying was inefficient.¹⁴¹⁵ From a theoretical basis there are numerous others that would dispute the analysis of free market ideologists relied on by Judge Bork.¹⁴¹⁶

Regardless of the criticism of Bork’s ideological bias there can be no denying that with that with one book he changed the entire trajectory of anti-trust law. Whereas prior to his work it was commonly excepted that the various anti-trust/competition authorities would protect the markets through the implementation and enforcement of “per se” restrictive regulations, after the its publication these “per se illegal” regulations were no longer acceptable or enforceable.

A typical and particularly relevant example of a “per se illegal” regulation would be the so called “nine no-noes” which were intended to restrict abuses of intellectual property rights by making certain kinds of behaviour automatically illegal regardless of their economic consequences.¹⁴¹⁷ These “per se illegal” activities being;

- 1) Requiring licensees to purchase additional unpatented products.
- 2) Require licensees to purchase a bundle of patents.
- 3) Requiring the licensee to grant back subsequent patents.
- 4) Requiring the licensee to adhere to minimum resale price provision with to the patented product.
- 5) Requiring the licensee to impose conditions on customers who purchase the patented product form them.
- 6) Restricting the right of the licensee to deal in products outside the scope of the patent
- 7) Restricting the licensees use of a product made through a patented process.
- 8) Imposing royalty provision unrelated to the patented product.

¹⁴¹² Bork Antitrust Paradox, 376

¹⁴¹³ *Id.* 81-89

¹⁴¹⁴ An extreme example would be a monopolistic electrical utility tying the supply of electricity to the purchase of electrical appliances from its stores. This would foreclose that possibility competitive electrical appliance retail business in its markets.

¹⁴¹⁵ *International Salt Co., Inc. v. United States*, 332 U.S. 392 (1947) being the first such case.

¹⁴¹⁶ See e.g.: Donald F. Turner, *The Validity of Tying Arrangements under the Antitrust Laws*, *Harvard Law Review*, Vol. 72, No. 1. (Harvard Law Review Association 1958), 50-75.

¹⁴¹⁷ Bruce B. Wilson, Deputy Assistant Attorney Gen., Remarks before the Fourth New England Antitrust Conference, Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions (Nov. 6, 1970).

9) Forcing licensor to accept an exclusive licensing agreement.

The reason why these per se rules were instituted was because each of them could be and had been used to reduce competition. The problem was that there were also real life and theoretical circumstances in which most of these behaviours would not reduce competition. For advocates of per se rules the benefits of applying the rules outweighed the cost of false positives.

'Per se rules always contain a degree of arbitrariness. They are justified on the assumption that the gains from imposition of the rule will far outweigh the losses and that significant administrative advantages will result. In other words, the potential competitive harm plus the administrative costs of determining in what particular situations the practice maybe harmful must far outweigh the benefits that may result. If the potential benefits in aggregate are outweighed to this degree, then they are simply not worth identifying in individual cases.'¹⁴¹⁸

For the ideological critics of per se rules, the cost of the false positives not only outweighed the positive benefits, but lead a rejection of the rules in total. The problem with both these approaches is that neither maximise the economic efficiency. When arbitrary rules are used as a proxy for true efficiency analysis, it is bound to result in the restriction of behaviour that would otherwise be efficient. Alternatively, an ideological based denial of the existence of efficiency harming behaviour, obviously ignores that anticompetitive behaviour. The question then become one of which is the least bad option.

A major factor in the outcome of this dispute was the economic situation which the western world was facing at the time. To put this rise into context it must be remembered that the 1970's was marked by a difficult recession, caused by among other things, the 1973 oil crisis,¹⁴¹⁹ the collapse of the Breton Woods Agreement¹⁴²⁰ and the emergence of increased competition in the steel industry as a result of the increased production from emerging markets. The recession itself was notable because it resulted in something called stagflation, which became short hand for the increases in both unemployment as well as inflation.

Unsurprisingly this recession challenged the economic theory which had prevailed under the regulated markets, and nowhere was it more actively challenged than at Chicago School of Economics. While this School was established in the in the 1940's; its school of "laissez affaire" theories, remained relatively unattractive as long as the economies of the world were performing well under the regulated market theories. When the 1970's recession occurred, the Chicago School Economist advocated not just an adjustment to regulation, but rather a full-frontal attack on the economic efficiency of all regulations. In the front lines this attack were; Friedrich Hayek, Ronald Coase, and Milton Friedman, who under the guise of a rebranded free

¹⁴¹⁸ United States v. Container Corp. of America, 393 U.S. 333, 341 (1969) (Marshall, J., dissenting)

¹⁴¹⁹ In October of 1973 the members of the Organization of Arab Petroleum Exporting Countries proclaimed an oil embargo in order to raise oil prices. In less than six months the price of a barrel of oil had risen from US\$3 to nearly \$12 globally with US prices significantly higher.

¹⁴²⁰ The Breton Woods Agreement was an agreement between the United States, Canada, Western Europe, Australia and Japan which established the rules for commercial and financial relations between them. The main feature of the Agreement required the signatures to adopt a monetary policy that maintained the exchange rate between their various currencies by requiring that any foreign borrowings be back by gold. The Agreement became operational in 1945. On 15 August 1971, the United States unilaterally terminated the convertibility of its currency into gold and allowing its value to float in the open markets. Not only did this bring the Breton Woods system to an end it also fostered significant uncertainty in the international markets which proved to be a drag on trade.

market ideology called "neo classical economics" disparaged all government regulations. Even the works of economists who were against deregulation, had their theories used against them was the case with George Stigler.

Friedrich Hayek started teaching in the University of Chicago in 1950, which was six years after the publication of his most famous work 'The Road to Serfdom'. In this book Hayek advanced the notion that the roots of the National Socialism (Nazism) was socialism and predicted that if Western Countries did not abandon their social involvement in society it would eventually lead them to the same fate as socialism had in Germany. The path of this eventual outcome being the demand of Society for a strong leader after the inevitable failures of society, due to ever expanding for social programs which could not work. The underlying premise being that the only way "to improve the general level of wealth" was via the activities of free markets.¹⁴²¹ Ironically, Hayek also acknowledged that government could and must play a constructive role in restricting the abuse of business.

'The successful use of competition as the principle of social organization precludes certain types of coercive interference with economic life, but it admits of others which sometimes may very considerably assist its work and even requires certain kinds of government action.'¹⁴²² and 'In no system that could be rationally defended would the state just do nothing.'¹⁴²³

However, because such nuance did not and does not appear to fit into the ideological philosophy of the neo-classical mainstream, it was and is generally ignored. For his part in the anti-regulation campaign, Ronald Coase promoted the theorem that all that was required for markets to maximise efficiency were clearly defined property rights.¹⁴²⁴ Obviously as this theorem it supports their beliefs in market omnipotence, it helps promote their objective of eliminating that governments interfere in the market. What is not so obvious is how this theorem can be manipulated to protect the privileged property rights of a few, whilst damaging the universal property rights of the many. Unfortunately for the neo-classical economists, this theorem can be challenged on moral grounds, easily rebutted on theoretical grounds, and discredited in terms of real world applications.

Even George Stigler, who was against deregulation, had his work theory of "regulatory capture" turned into a tool against government regulation.¹⁴²⁵ Regulatory capture involves regulatory agencies, advancing the commercial or political interests of special interest groups that dominate the industry or sector which they are regulating, rather than protecting the public interest which they were intended to protect.

'The idealistic view of public regulation is deeply imbedded in professional economic thought. So many economists, for example, have denounced the ICC for its pro-railroad policies that this has become a cliché of the literature. This criticism seems to me exactly as appropriate as a criticism of the Great Atlantic and Pacific Tea

¹⁴²¹ Hayek, *The Road to Serfdom* Id. at p230

¹⁴²² *Id.* 43

¹⁴²³ *Id.* 45

¹⁴²⁴ Ronald Coase 'The Problem of Social Cost' 3 *Journal of Law and Economics*, (The University of Chicago Press 1960) 1–44

¹⁴²⁵ George Stigler, *The Theory of Economic Regulation*, *Bell Journal of Economics and Management Science*, no. 3, pp.3–18 (1971)

Company for selling groceries, or as a criticism of a politician for currying popular support. The fundamental vice of such criticism is that it misdirects attention: it suggests that the way to get an ICC which is not subservient to the carriers is to preach to the commissioners or to the people who appoint the commissioners. The only way to get a different commission would be to change the political support for the Commission, and reward commissioners on a basis unrelated to their services to the carriers.

Until the basic logic of political life is developed, reformers will be ill-equipped to use the state for their reforms, and victims of the pervasive use of the state's support of special groups will be helpless to protect themselves. Economist should quickly establish the license to practice on the rational theory of political behavior¹⁴²⁶

This was turned against all regulations by implying that; if it is inevitable that regulators will be captured and therefore run their agency in a manner which harms the public interest, public interest is better served by not having the agency and simply relying upon the unregulated markets to product the best outcome. Unsurprisingly this interpretation theory of captured regulators totally ignores any negative consequences which can arise from an unregulated market, or any good that comes from regulations, or the possibility that not all regulators are captured.

Finally, there was Milton Freidman who was perhaps the School's strongest proponent of free markets and greatest opponent of government regulations. He did this by claiming that societies had a binary choice in how they were governed.

'Fundamentally, there are only two ways of co-ordinating the economic activities of millions. One is central direction involving the use of coercion the technique of the army and of the modern totalitarian state. The other is voluntary co-operation of individuals the technique of the market place.'¹⁴²⁷

As well as disparaging any government interference in the market.

'I think the government solution to a problem is usually as bad as the problem and very often makes the problem worse.'¹⁴²⁸

This despite the fact that his expertise, and indeed the reason why he won the Noble prize for economics was his work on monetary policy, and not political theory. To a large extent it was his work on monetary policy which coloured his attitude towards government as clearly demonstrated in his analysis of the Great Depression.

'The Great Depression, like most other periods of severe unemployment, was produced by government mismanagement rather than by any inherent instability of the private economy.'¹⁴²⁹

¹⁴²⁶ *Id.* 17

¹⁴²⁷ *Id.* 19

¹⁴²⁸ Milton Friedman *An Economist's Protest*, (Thomas Horton and Company 1972) 6

¹⁴²⁹ Milton Friedman, *Capitalism and Freedom*, (The University of Chicago Press 1962) 38

This quote like so many others indicates a wilful ignorance of any abusive behaviour by industrialist that actually caused the market crash of in September 3, 1929 and the bank failures that followed.

Needless to say, these economic arguments deriding regulation would have a major impact on regulatory policies, if they were embraced by the politicians with the power to change the policy. Which is what happened with the election of Prime Minister Margret Thatcher in the UK and President Ronald Regan in the U.S. For her part Prime Minister Thatcher became a fervent follower of Hayek, and Friedman.

'the most powerful critique of socialist planning and the socialist state which I read at this time [the late 1940s], and to which I have returned so often since [is] F.A. Hayek's *The Road to Serfdom*.'¹⁴³⁰

President Reagan on the other hand appeared to capture the ideas of Friedman both amusingly and succinctly when addressing an America farmers forum;

'There seems to be an increasing awareness of something we Americans have known for some time: that the 10 most dangerous words in the English language are, "Hi, I'm from the Government, and I'm here to help."'¹⁴³¹

Obviously once the leadership of the western world started adopting the neoclassical ideology which held that regulations were the cause of economic problems, rather than a solution to market abuses, it was inevitable that those regulations would play a much less significant role in society.

However, to be fair the neo-classical economist, while "per se" rules may have prevented some income appropriation, it is entirely valid to suggest that expecting anti-trust/competition authorities to police every kind of abusive behaviour was always unfair and unrealistic. It is unfair because the only practical way that those authorities would have the capacity to do so was by implementing "per se" rules which would inevitable result in unjust prosecutions, as not every breach of those "per se" rules was or is anti-competitive. It is unreasonable because by expecting those same authorities, with or without out the use of "per se" rules, to be responsible for preventing income appropriation throughout the economy, places an impossible burden on those authorities. Particularly given the fact that most authorities are not only constrained by their own resources but could be subject to substantial financial judgements when the courts determine that they are mistaken in their assessment. In short, these authorities were lacking in the necessary tools, skills, staff or authority to prevent to every form of economic abuse that would result in unjust enrichment and it is perhaps better that they primarily focus on a few forms of anti-competitive behaviour where they have established a high level of competence and are granted the authority that they need to prosecute behaviour which involves collusion between competitors.

One of the consequential results of this change in policy had to do with the partial repeal of the Glass-Steagall Act¹⁴³² which had governed banking in the United States since 1933. At its core the Glass-Steagall Act did two things. It set up a federal deposit insurance scheme and attempted

¹⁴³⁰ Margaret Thatcher, *The Path to Power*, (New York: Harper Collins, 1995) 50

¹⁴³¹ President Reagan, Remarks to Representatives of the Future Farmers of America, July 28, 1988

¹⁴³² The Banking Act of 1933 (Pub.L. 73-66, 48 Stat. 162, enacted June 16, 1933)

to protect against insecurity in the financial markets by restricting the right of financial institution to engage in both lending (commercial banking) and investment activities (security firms). This second aspect being driven by the lending on stocks and other securities which had created the financial bubble that collapsed in 1929, wiping out millions of investors and bankrupting thousands of banks. Although criticised by conservatives since its enactment it was not until 1999 under the Gramm–Leach–Bliley Act,¹⁴³³ that the barriers between banks, security companies, and insurance companies were removed. Not only did it remove the barriers to consolidation; it also it failed to give to the SEC or any other financial regulatory agency the authority to regulate the new larger investment bank holding companies that resulted as from that consolidation. This of course made a mockery of the purported notion of supervision which was supposed to prevent abuses. All of which mean that these large financial institutions were free to engage in unfettered financial activities on a scale never seen since before the Great Depression. The net result of this unfettered freedom was the sub-prime mortgage crisis, in which that the unregulated greed of a few came close to destroying the global financial markets.¹⁴³⁴

A similar change in policy can be seen within the field of patent rights. For rather than providing companies with the option of defending behaviour which breached one of the nine no nos, the U.S. Department of Justice essentially abandoned all rules altogether, and instead placed the burden on Anti-Trust division to prove that a company's actions were anti-competitive under a "rule of reason". Under the rule of reason approach there are no absolutes and it is left to the courts to assess whether any specific behaviour on the part of any particular property owner is anticompetitive. This change in policy would be analogous to the traffic department abandoning all speed limits and road signs and instead insisting that in order for any motorist to be convicted of a traffic offence, the government would have to prove that they were driving dangerously. The net result of this policy change was that the patent owners could now engage in any of the previously prohibited activities, without fear of automatic prosecution. Indeed, as things progressed it became clear that only illegal tying, still maintains anything like a "per se" rule status.¹⁴³⁵ Using the same analogy about traffic laws this would be equivalent to suggesting that after abandoning traffic rules, it was decided that drink driving would remain a "per se" violation, that did not need to be litigated to determine if dangerous driving had occurred.

Unsurprisingly; the evolution from a regulated property to a supervised property stage has had a significant effect on the behaviour of patent owners. The most significant effect was that the lack of defined rules allowed for the rise of the so-called patent trolls who became free to abuse intellectual property law to appropriate as the rewards of other inventors for themselves by threatening injunctive action against manufactures of integrated intellectual products, i.e. patent holdup.

¹⁴³³ Financial Services Modernization Act of 1999, (Pub.L. 106-102, 113 Stat. 1338, enacted November 12, 1999)

¹⁴³⁴ Andrew Ross Sorkin, *Too Big to Fail*, (Penguin Group, 2009)

¹⁴³⁵ *Eastman Kodak Co. v. Image Technological Services, Inc.*, 504 U.S. 451, 461 (1992) ' respondents have presented evidence that Kodak took exclusionary action to maintain its parts monopoly and used its control over parts to strengthen its monopoly share of the service market. Thus, liability turns on whether valid business reasons can explain Kodak's actions. However, none of its asserted business justifications-a commitment to quality service, a need to control inventory costs, and a desire to prevent ISO's from free-riding on its capital investment-are sufficient to prove that it is entitled to a judgment as a matter of law.' at p453

The second effect; legal attrition/patent holdout was a response to first. This was the same thing that happened during the earlier free market stage. When companies were facing unreasonable licensing demands from patented owners they resorted to any legal manoeuvre available, to avoid those unreasonable demands. In the modern context this meant engaging in excessive depositions as well as challenging every aspect of a patent validity and infringement. After legal attrition became an acceptable means of defence against patent holdup, its use was expanded to also avoid reasonable licensing offers by intellectual property owner who did not have the unlimited financial and legal resources of the large technology manufactures. The net result of using legal attrition against reasonable licensing offers was that over time, smaller patent owners with limited financial and legal resources were unable to afford the litigation required to enforcing their rights. All of which meant that today large technology companies are able to avoid paying fair market value for the use of integrated innovations. This naturally provided them with higher profits than they would otherwise earn, all to the detriment of smaller innovators. It is this appropriation of small innovator's rewards which has significantly contributed to a concentration of wealth in many high-tech industries.

A situation which is directly comparable to the earlier free market stage, where robber barons hid their abusive behaviour behind the claims of technological superiority. Given this outcome it could be argued that the supervised stage is in essence a return of the free market stage. However, while the evolution from a regulated stage to a supervised stage clearly facilitated the possibilities to engage in patent holdup, and patent holdout; this did not mean that a supervised stage is incapable of resolving these problems.

All that is require is for the rules needed to avoid such abuses to be just properly; located, calibrated and monitored in the body of law which covers that the field where it is occurring. While this would appear like a rational proposal it has been frustrated by three obstacles. The first of these is that the neo-classical proponents were so successfully in perpetuated that the notion that the efficiencies of an unregulated market so overwhelmed any inefficiencies cause by potential abuses, many societies came to believe the abuses should be ignored. The second obstacle was that they have so discredited government regulations, that the changes needed in other bodies of law could not happen. The third obstacle was there was no new ideological arguments or legal doctrine which could be used to counter the ideological arguments of neo-classical proponents. It is third obstacle which is perhaps the most significant reason why the application of the "rule of reason" in the supervised stage has failed to restrain abusive behaviour. Obviously if there is no rational or doctrine which can used to argued argue against abusive behaviour which creates harm, the harm will be seen as a marginal and unavoidable consequence of the free market.

To a greater or lesser extent it was the neo-conservative notions; that free markets work better than any alternative and any harm it is a marginal and unavoidable consequence which have curtailed the potential of the supervised stage and transformed it into a free market revival. However just as with the end of the last free market stage it can be expected that; when the gap in income equality becomes too large and/or there is another major recession, this revival will also come to an end.

14.4 The Next Evolution and Intellectual Property

The presumption that the revival of the free market stage during the supervised stage will come to an end, assumes that the neo-classical ideology continues to maintain its dominance in the field of law and economics. The logic behind this statement being as follows: an evolution will likely occur if there is another major recession, and a major recession will certainly occur if too few people have the resources necessary to sustain economic growth, and too few people will have economic resources if the neo-classical ideology which is indifference to wealth concentration and income inequality is maintained.

The expectation that eventually too few people having the resources to sustain economic growth, being supported by statistics which show that over the past decade wages have stagnated even though productivity has increase.¹⁴³⁶ In industries which focus on the manufacturing of high technology products, this wage stagnation is exacerbated by the disproportionately low royalty payments which have been facilitated through the legal attrition practiced by major technology firms. What this means is unlike previous recession; traditional employees, independent engineers and inventors all will be experiencing wage stagnation. It is worth noting that this situation can be compared to the situation factory workers faced in the free market stage during the industrial revolution. During the industrial revolution because factory workers did not have adequate legal protection; factory owners appropriated most of the value created by their workers for themselves, providing their employees with the lowest possible compensation for their work, and thereby creating extreme inequity in wealth. So, to the extent that the current information revolution represents another transformation in the global economy; paying intellectual property a small fraction of the value which their properties contribute, should be considered an appropriation of a similar nature. Particularly as the creation of intellectual property, is the driving force of current economic growth.

Whilst it is likely that a reactive backlash against further increases in income inequality will be responsible for the next evolution on the property continuum, that evolution could also occur as the result of a proactive recognition of the failures of the supervised stage. If this proactive recognition were to occur, it could be expected that societies would have concluded that the pendulum of economic activity had swung too far in favour of free markets, and a return to one of previous stages needs to be considered. The question would then become which of the earlier stages would be the most logical to pursue. To answer this question, it is perhaps useful to review what lessons can be drawn for the various stages, particularly as they relate to intellectual property rights.

With respect to the communal property stage, it should be noted that communal property presumes that all participants are engaged in communal activities, with only a limited division of labour. Another significant aspect of the stage was the aggregate production of the society was shared among all members of society, which meant there was no need for an exchange mechanism. While this lack of an exchange mechanism can be misconstrued as suggesting that members of a society contributed their labours for free, in fact everyone was paid for their contribution by receiving their share of the society's aggregate production.

¹⁴³⁶ Lawrence Mishel, Elise Gould, & Josh Bivens, *Wage Stagnation in Nine Charts*, (Economic Policy Institute, Jan 6th 2015) available at: <http://www.epi.org/publication/charting-wage-stagnation/>

The primary lesson from this stage for intellectual property must be that even in the most primitive societies, there was never an instance where members were unrewarded for their efforts to support the society. A lesson which would appear to contradict the message of the free intellectual property supporters, who propose that everybody has the right to a reward for their labour, except innovators who are only entitled to some form of indirect reward. In communal society this would be equivalent to suggesting that a spear maker could only share in a feast, if it was his spear that was used to kill a deer.

Moving to the tribal property stage, what differentiates this stage from the communal property stage is the division of labour. Under this stage societies recognised that some members were better at certain activities than others, and by dividing up the tasks according to competence, a higher level of production could be attained. In addition, this stage saw the introduction of a limited forms of private property rights as farmers, fishermen and hunters began to espouse a sense of entitlement towards the property that they and their forebears had been working. Finally, this stage also saw the introduction of exchange and/or pricing mechanism. This mechanism being required as introduction of limited forms of property rights, eroded the concept of communal property.

The primary lessons which can be drawn from this stage is that specialization improves productivity, and differences in productivity will motivate a movement away from an equal sharing of rewards and towards some form of ownership of those rewards. Property ownership of the means of production representing the most logical method for dealing with the ownership of rewards. From an intellectual property perspective these lessons clearly suggest that allowing inventors to specialise on inventing will result in higher levels of innovation. Further just as any other members of a society, they will want to be rewarded for the value that they create. This naturally would require some measure of property ownership and protection of property rights.

When it comes to the stages included in the concentrated property phase, the dominant feature of these stages were that property and near absolute property rights were taken and granted by the rulers; to a privileged few in return for their loyalty. While there can be no doubt that the stages in this phase entrenched private property rights, because ownership was so limited and absolute, it clearly and disproportionately benefited the privileged few to the exclusion of others. What was also evident in this phase was that those owners, whether rulers or loyal supporters often did not have the capacity to properly or efficiently manage their property.

This same dynamic is also visible in the intellectual property rights established by letters patent during the noble property stage. Not only were letters patent granted to parties favoured by the crown, they also were absolute in nature. Although the justification for granting patent rights changed during the aristocratic stage, the rights provided still remained relatively absolute, even if they were limited in duration. That said the change in justification was truly dramatic; in that the deciding factor in determining whether individuals would be granted patent rights became inventiveness rather than loyalty. This meant that any member of a society which created an invention was entitled to seek patent protection, and if successful this would provide them with ownership rights over their invention. The universality of this merit-based system representing a huge step forward in the evolution towards universal property rights, before universal property rights in traditional property was fully accepted.

Given the significances of this change to intellectual property and the evolution of the property continuum property, it is quite surprising that there are those which appear to be

advocating that this merit based intellectual property ownership should not be maintained. That intellectual property ownership should be restricted, whenever intellectual properties represent a small part of a larger invention. Although supporters of these restrictions are justifiably concerned about the abuses of intellectual property rights, a return to a privileged ownership society would appear to run counter to the advances in universal property rights. Not to mention that limiting intellectual property ownership in any given industry to one entity, would likely hinder the economic development, just as granting sole ownership of large parts of North America to single entities limited the initial development of that continent

While the evolution to universal property rights dramatically increase the possibility of owning property to ordinary citizens, the absolute nature of property rights was still maintained in the free market stage. The absolute nature of property rights during this stage can extrapolated from the lack of restrictions placed on a property owner's use of their property. This allowed some property owners to abuse their property in a manner which took extreme advantage of their employees and appropriated the property of others. Their absolute property rights being used as a shield with which hide or justified those abuses. The net result of these abuses was a dramatically increase in income inequality, with the rewards of industry being captured by the most abusive. Although contested, there is significant evidence that the Great Depression resulted from this income inequality.

From an intellectual property prospective these abuses involved anticompetitive measures; like requiring exclusive purchase deals or tying the purchase of a patented product to an unpatented product or attempting to monopolize a market through by seeking injunctive actions against other patent owners who have also contributed to a technological product. The fact that these abuses were facilitated and largely ignored in this stage, being consistent with the neo-classical notion that the efficiencies of a free market so overwhelmed any inefficiencies cause by potential abuses, those abuses should be ignored. Regardless of whether the current abuse of patent holdup occurred during this stage, the fact that this stage facilitated and ignored abuses of injunctive relief, indicates that it provides no lessons for dealing with patent holdup. In fact, the lesson to be drawn from this stage is that a return to it, would almost certainly mean a return of patent holdup, as a customary practice in integrated technology industries.

For the most part the directed property stage can be defined as an overreaction to the Great Depression, which was blamed on abuses committed during the free market stage. Although short-lived: in most Western societies this stage involved; the nationalization of properties, and government agencies telling property owners how they could use their properties, including defining the prices which would prevail in the market. The reason why this stage was so short-lived was because it soon became clear that; government control over industry resulted in greater inefficiencies and was extremely susceptible to agency capture. While the inefficiencies of this stage are recognised and appreciated by societies, the agency capture side tends to receive less attention. This despite the fact that agency capture played a significant role in creating the inefficiencies, as large vested interest successfully sought to protect their profits through influencing the government agencies which regulated them.

From an intellectual property prospective, it was the agency capture consequences which had the greatest impact were the price fixing rules. Many of these rules disproportionately favoured large manufacturers while others significantly undervalued the contributions of intellectual property owners, by limiting the royalties they could charge for the use of their properties. Although the Aircraft Association licensing agreement described in Chapter 7

predated the Great Depression, its contents provide an excellent example of the potential discriminatory effects of directed property regulations. It should be recalled that under that government coerced agreement, only the two largest intellectual property contributors were granted the right to charge royalties, with the other contributors being forced to provide their intellectual property for free.

It is worth noting that although the lessons about inefficiency and agency capture are acknowledged in modern economics, they appear to have been forgotten with respect to regulations on intellectual property rights. The return of directed intellectual property being pursued by various competition authorities, who have decided that it is up to them to direct the royalties which can be charged on correlated intellectual properties. The justification for a return of the directed regulations being based on an effort to avoid patent holdup and ensure the provision of inexpensive technological products for consumers. Unsurprisingly, just as in the directed property stage, these agencies have to a large extent been captured by large multinational technological companies who want to lower their royalty costs. The evidence of this capture is in full view; in that the royalties which these agencies have directed are a fraction of the value which is provided by the intellectual properties, and the fact that those same agencies appear to have no problem with large technology companies charging consumers the full value which can be attributed to their brands. If the agencies were truly concerned with patent holdup, they would merely ensure that intellectual property owners do not use their market power to charge more than the value contributed by their intellectual properties. If they were truly concerned about consumer prices, they would require discounts on both royalties, and brand value.

In terms of the lessons which can be drawn from the restricted stage, it should first be noted that initial “per se” prohibitions adopted under this stage produced record economic growth in many countries, and dramatically reduced income inequality by helping to create a growing middle class. The problem was that; just as the current supervised stage has permitted a revival of free market stage, this stage permitted a revival of the directed stage. It was under this revival in the latter parts of this stage, legislators and regulators over extended themselves to the point where the prohibitions themselves became a barrier to economic development. Additionally, because these prohibitions also caught innocent victims, it was inevitable that the “per se” nature of them would eventually be challenged. What is unknown is what would have been the economic results and social consequences of this stage, if the over regulation had not occurred. Assuming that the early economic and social development would have been maintained, it is possible that the challenges to the legitimacy of the prohibitions would have been unsuccessful.

In the field of intellectual property those “per se” prohibitions were best represented by the “nine no-noes” which were enforced under antitrust rules in America. As with other prohibitions, because it was possible to show that there were situations where their enforcement would prohibit innocent behaviour, these too were abandoned. This despite the fact that included in those nine no noes, was at least one prohibition which might have been effective in preventing patent holdup.¹⁴³⁷ To the extent that this prohibition could have prevented patent holdup, and the patent holdout response to patent holdup, it would appear self-evident enacting a similar prohibition in patent law would represent the most logical

¹⁴³⁷ Number seven of the nine No-noes “Requiring, as a condition of the license, royalties not reasonably related to the licensee’s sales of products covered by the patent”

solution to those problems. Particularly if the enacted prohibition were to be worded in a way which would avoid enforcement of the prohibition against innocent actors. For example: the wording could be as follows:

When multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the total value of that property and a prohibited from requiring royalties which are in excess of that value.

While such a prohibition would undoubtedly solve the problem of patent holdup and therefore remove the justification for patent holdout, there are two problems related to this solution. The first is that attempting to enact this prohibition in existing patent legislation in multiple jurisdictions would be incredibly difficult. This because political pressure from those that benefit from the status quo would be enormous and potentially fatal. The second problem is that; it would open up the door to the same over regulation risks which ended the restricted property stage.

While neither of these problems should be under-estimated, it should also be noted that returning to prohibitions would represent a step backwards on the property continuum. This raises the question as to whether there might exists potential solutions which have been developed and proposed since the end of the restricted property stage, that would be a step forward on the property continuum. In particular whether an application of the correlated rights doctrine in intellectual property law might be a better solution.

What makes the application of the correlated rights doctrine different from a return to one of the regulated property stages, is that it abandons the medieval notion of absolute property rights as its foundation. Obviously because absolute property rights are abandoned, it is not necessary to impose regulatory limitations on those absolute property rights. This because inherent in the doctrine is the potential that the property rights of others can be used to limit the abuse of individual property rights. This doctrine being articulated by the latin dictum “sic utere tuo ut alienum non laedas”. In its simplest application what this would mean is that all property owners, should recognise and respect the property rights of other property owners, when exercising their rights.

While few people have heard of correlated property rights, as described earlier it is an established legal doctrine which has been applied in two bodies of law for more than a century.¹⁴³⁸ It has been applied in water law, where surface property owners have individual ownership claims on common underground aquifers, and it has been applied in oil and gas laws when surface property owners have similar claims on similar underground oil and gas reserves. The basic premise of the doctrine is that as individual users have similar claims on a share resource, they are prohibited from taking more than their proportionate share of that common resource. In water law this means that surface owner can *only* extract and used an amount of water, which is equal to their proportionate share of the water that replenishes the aquifer. That proportionate share being equal to the share of the land above the aquifer that they own. The same rules are followed when the correlated rights doctrine is applied to oil and gas reserves. The surface owners also are only entitled to their proportionate share of the value of the oil and gas reserves which under the surface property that they own. In both cases the application of

¹⁴³⁸ See Chapter 6

the doctrine has resulted in a more equitable of distribution of the value of the property they own and has significantly enhanced the productivity and sustainability of the underlying resource.

If it is viewed in a more general manner this doctrine could be used to protect owners of one form of property, from being abused by owners of another form of property, whenever those two forms of property come into contact. For example, it could be used to protect employees (who own their labour) from being abused their employers (who own the business). Such an application would ensure that employees receive a proportional share of the value which they contribute to the business. Alternatively, it would protect business owners from wage demands, which exceed that value that employees contribute to the business.

While such a generalised application may appear idealistic, the fact is there is already exists in Europe a hierarchically superior law which appears to require such an application.¹⁴³⁹ That law takes the form of the European Charter of Fundamental Rights which protects; property¹⁴⁴⁰ employment,¹⁴⁴¹ and business rights¹⁴⁴², in addition to declaring that:

'Enjoyment of these rights entails responsibilities and duties with regard to other persons, to the human community and future generations.'¹⁴⁴³

and

"Nothing in this Charter shall be interpreted as implying any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms recognised in this Charter or at their limitation to a greater extent than is provided for herein.'¹⁴⁴⁴

All of which means that applying something like the correlated rights doctrine is already a legal requirement in European Union Member States.

In terms of applying this doctrine in intellectual property law, this would constitute a simple migration of the doctrine from the existing bodies of law where it is applied to integrated properties, to a new body of law where are also integrated properties. The specific definition of correlated intellectual property rights which is proposed in this thesis is as follows:

'When separately owned intellectual properties are determined to be inherently integrated with other intellectual properties, the individual property owners shall have proportional property rights with respect to the whole property and shall not disproportionately enrich themselves to the detriment of the other intellectual property owners.'

It should be noted that this definition matches the proposed prohibition which was suggested if a return to the restricted stage was to be considered. This match can be attributed to the fact that the proposed prohibition was intentionally drawn from this definition. The difference between applying the correlated rights doctrine and adopting the prohibition is that, an application of the doctrine avoids the two problems identified with respect to the prohibition.

¹⁴³⁹ See Chapter 11

¹⁴⁴⁰ *EU Charter*, Article 17 The right to property

¹⁴⁴¹ *Id.* Article 15 Freedom to choose an occupation and right to engage in work

¹⁴⁴² *Id.* Article 16 Freedom to conduct a business

¹⁴⁴³ The Charter, Preamble

¹⁴⁴⁴ Article 54 Charter of Fundamental Rights of the European Union (2000/C 364/01)

The problem of getting the prohibition enacted is eliminated because the doctrine can be applied without changing or breaching existing legislation. The problem with respect to the opening the door to future over-regulation is also avoided because inherent in the doctrine is all the limitation which are needed to resolve most correlated intellectual property disputes. Equally important is the fact that an application of the doctrine would avoid the problem of agency capture, which will always be a risk in any regulated solution.

While the migration of the correlated rights doctrine into intellectual property law (or any other body of law) may not face the same problems as would be faced by returning to some form of prohibition, it should still be anticipated that there will be significant ideological resistance its application. This because a shift away from the notion that property owners have an absolute right to maximise their profits, contradicts the central beliefs of the free market proponents in the neo-classical school. Given these anticipated challenges it is worth examining why such challenges are unlikely to be as successful as the challenges against the directed, regulated and supervised property stages.

What makes the success of these challenges less likely is that defender of correlated property rights; will not be encumbered by disadvantages and will have advantages which regulated property defenders did not have. The most important disadvantage which they will not have to defend; is the proposition that government bureaucracy knows what is better for the economy than private business owners. The second disadvantage that they will not have is the problems inherent in the free market ideology; are not part of a distant past which has been forgotten and which can be easily dismissed. The first and most significant advantage that they will have is that they will be advocating for property right and not against property rights. The second advantage that they will have will be that they will have doctrine that they are fighting for (the correlative rights doctrine), not one that they are fighting against, (the absolutist doctrine). The final advantage that they will have the small business on their side, as small business will be the primary beneficiaries of correlated rights.

Taking each of these disadvantage and advantages in turn, not having defend government bureaucracy is a tremendous advantage, because of the contempt that has metastasized, either rightly or wrongly, against government interference in the economy. This does not have to be defended because correlated property rights disputes represent disputes between two private parties, rather than a dispute between a private party and the government. In these disputes the private parties will have to present evidence in support of their positions, with the courts determining how equity is best served. While the courts are a part of government, they are held in a much higher regard and assuming they use their discretion of avoid inequitable outcomes, they will continue to be held in high regard.

Not having the problems inherent in the free market ideology as distant and forgotten memory, obviously removes the disadvantage of having to explain to those who have not experienced what can go wrong when free market ideologies are dogmatically pursued. The most prominent of these problems being those which revolve around the growth of income inequality which is considered by many to be the most serious issue facing modern societies.

As to advantages. Because of the evolution of universal property rights most people own property, and as such it can be expected that these expanded ownership ranks will be more receptive of arguments which protect those rights, than they would be to arguments which limit them. While it is entirely reasonable to suggest the property limits inherent in the correlated rights doctrine are not that different than the limits regulators sought to place on absolute

property rights, the fact that it is a positive rather than a negative argument which can be made, totally changes the dynamics of perception. By adopting an argument in favour of property rights, opponents must adopt a position against those same rights. This therefore turns the tables on the neo-conservatives, which for the last 40 years have been arguing in favour of property rights. Further this should eliminate their ability to engage in the sophistry, which equates limiting property rights to confiscating property as part of some notorious socialistic plot.

The advantage of having a doctrine to fight for rather than against, has the same perception dynamics. More importantly it provides a clear rebuttal to the often-repeated assertion that while free market may have their problems, they are better than any other system.¹⁴⁴⁵ Obviously without a compelling alternative doctrine, regulatory stage proponents could be portrayed as merely critics who complained for the sake of complaining. With the correlated doctrine, supporters of the doctrine can stand for something, rather being defined as standing for nothing.

The final advantage of having small business on their side, was not described as the most significant advantage, but it could be. The reason why it is not described as the most significant advantage is because small businesses will likely have to experience the benefits of an application of the correlated rights before they are supportive of it. However, once they do experience those benefits, the fact that they represent between 60 to 70% of all economic activity will make their support decisive in the evolution towards a correlated stage.

From a pragmatic prospective it must be admitted that a correlated stage may be prevented from evolving in the short-term future. Particularly as agency capture is such a dominate force in the current social structure and large property owners, who enjoy disproportionate rewards from the supervised stage, will oppose a peaceful transition in any way they can. However, if the past is any prelude, events will eventually overcome their opposition and an evolution of property rights will continue. Even if this belief is mistaken, proponents of correlated property rights can take comfort in the knowledge that:

'A good will isn't good because of what it effects or accomplishes, it is good in itself. Even if by upmost effort the good will accomplishes nothing it would still shine like a jewel for its own sake as something which has its full value in itself.'¹⁴⁴⁶

¹⁴⁴⁵ Curiously this assertion is derived from Prime Minister Winston Churchill's famous quote which was "Many forms of Government have been tried, and will be tried in this world of sin and woe. No one pretends that democracy is perfect or all-wise. Indeed, it has been said that democracy is the worst form of Government except for all those other forms that have been tried from time to time". (House of Commons, 11 November 1947) Of course when Churchill made this quote he was arguing against communism, and not for unrestricted capitalism.

¹⁴⁴⁶ KANT, Immanuel, 1724-1804, *Critique of Practical Reason*, originally Published in 1788 (Dover Publications 2004)

15. Conclusion

Included in the introduction was Judge Richard Posner's description of task of legal scholars, which he described as involving; 'Developing the theories related to fundamental changes in the underlying subjects and "extracting" a doctrine from those judicial decisions' This description was based upon the his view that unlike judges, legal scholars have the luxury of time and resources to dedicate to developing the theory, in particular they have the opportunity expand their research well beyond the specifics of individual cases in the search for a more comprehensive understanding of the situation. That in the best research the scholars will identify the underlying changes which has driven the reactive change in the law and uncover established doctrines in parallel bodies of law which can be migrated to or "extracted" from existing case law. It is this description of legal scholarship which has been followed in thesis.

With respect to the underlying change it was pointed out that there has been an evolutionary change in the inventive process from one where the majority of inventions were of a standalone nature, to one where the majority of are of a correlated nature.¹⁴⁴⁷ A standalone intellectual property being defined as: *a patented innovation which is developed solely by a single entity and which requires no integration with any other entities' valid and enforceable intellectual property to fulfil its claims.* Whereas a correlated intellectual property being defined as: *a patented innovation which have been built upon exiting intellectual property and which must be integrated with other entities' valid and enforceable intellectual property to fulfil its claims.*¹⁴⁴⁸

With respect the researching beyond the specifics of individual cases, the thesis included an explanation of the effects of "patent holdup" and "patent holdout",¹⁴⁴⁹ a historical example to demonstrate that it is not a new phenomenon,¹⁴⁵⁰ as well as a review of the anticipated solutions to these problems.¹⁴⁵¹ However, when it was determined that none of these anticipated solutions could provide an equitable solution, it was expanded to search for solutions in other bodies of law. It was during this expanded search that the correlated property rights doctrine was discovered.¹⁴⁵² That doctrine being defined as follows:

"When multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the value of the property and the law should protect that share from being appropriated by others, including other owners and users."

Although discovering this doctrine would have been sufficient to meet the criterium laid down by Posner. It was recognised that because this doctrine represented such a contrarian position to the absolute property right foundation of intellectual property law and the dominate

¹⁴⁴⁷ Chapter 1 Introduction and Thesis Structure

¹⁴⁴⁸ Chapter 8 Defining and Applying Correlated Intellectual Property

¹⁴⁴⁹ Chapter 2 Defining the Reserch Problem and Thesis Objective

¹⁴⁵⁰ Chapter 7 An Example of Intellectual Property Issues and Solutions

¹⁴⁵¹ Chapter 3 Anticiapted Legal Remedies

¹⁴⁵² Chapter 6 History of the Correlated Rights Doctrine

solutions to current intellectual property problems, merely identifying it would not be sufficient to ensure its application. Particularly as the doctrine also contradicted the neo-conservative ideological so prevalent in the field of law and economics. As such the research was expanded to include a review of how property ownership rights have evolved over time, in an effort to demonstrate that absolute property rights represent an antiquated doctrine which has only limited application in the modern world.¹⁴⁵³ Also included was a review of the justifications for intellectual property rights,¹⁴⁵⁴ an analysis of the underlying ideological justifications for both absolute and correlated property rights.¹⁴⁵⁵

Further research focused on how recent changes in the application of intellectual property law can be represented as milestones on the path towards an application of the correlated rights doctrine. It was in this research which most closely complies with the methodology suggested by Posner, however it goes further by advancing an assessment as to whether those judgements and other recent judgements represent steps backwards or forwards on the path to an application of the doctrine.¹⁴⁵⁶

The final bit of research focused on the compatibility of the existing legislation with the application of the correlated rights doctrine,¹⁴⁵⁷ and a potential legal requirement for the correlated rights doctrine to be applied under European Union Treaty and Fundamental Rights Law.¹⁴⁵⁸ This material was included to show that an application of the correlated right doctrine did not require changes existing legislation and may be required by existing legislation.

The single chapter which does not include extensive research is the one which anticipated the potential advantages and disadvantages of applying the correlated rights doctrine in intellectual property law.¹⁴⁵⁹ It is this analysis which provides the non-doctoral justification for applying the correlated rights doctrine.

Taken together what this research indicates is that there are significant advantages of replacing current restriction on absolute property rights with an application of the correlated rights doctrine. The most significant is that it restricts the potential for patent holdup, while ensuring that all intellectual property owners regardless of their size, location or the fact that they are non-practicing entities, will be able to receive reasonable royalties for the use of their intellectual property. Reasonable royalties being defined herein as a rate which is proportional the value which their intellectual properties provide to an integrated technological product. This value being determined by a holistic apportionment approach, which begins with an assessment of the total value that the aggregate value of integrated intellectual properties provided to a technological product, which is subsequently apportioned to individual intellectual property owners according the proportional share of the value which their properties provides to the aggregate value.

The second significant advantage is that it eliminates the judicial justification for allowing patent holdout, by restricting the potential for patent holdup. In addition to eliminating the justification for patent holdout, it also provides the courts with a means to dis-incentivise the

¹⁴⁵³ Chapter 13 A Theoretical Property Continuum

¹⁴⁵⁴ Chapter 4 A Review of Intellectual Property Right Law Justification

¹⁴⁵⁵ Chapter 5 Theoretical Illusions and An Alternative Theory

¹⁴⁵⁶ Chapter 9 Milestones, The Path Backwards and The Path Forward

¹⁴⁵⁷ Chapter 10 Correlated Rights and Existing Legislation

¹⁴⁵⁸ Chapter 11 A European Requirement to Apply the Correlated Rights Doctrine

¹⁴⁵⁹ Chapter 12 Advantages and Disadvantages of Applying the Correlated Rights Doctrine.

both patent holdup and holdout. This because it recognises that there exists a reasonable royalty range, which can be used to punish or reward abusive behaviour.

The third significant advantage is that to a large extent eliminates the risk of agency or judicial capture, which should reduce inconsistent and sometimes arbitrary restrictions imposed on intellectual property rights. An application of the correlated rights reduces these inconsistencies, by providing a doctrine which incorporates the restrictions necessary to avoid the appropriation of the value of intellectual property owners by either other owners (patent holdup) or patent users (patent holdout). Having those restrictions already inherently incorporated in the doctrine, obviously eliminates the need for further restrictions of an arbitrary nature.

Yet another significant advantage is the it should speed up innovation, by allowing all innovators to thoroughly research all existing innovations without facing the potential of being categorised as a wilful infringer. Such unencumbered research also benefiting existing intellectual property owners, because it should facilitate greater recognition and respect for their intellectual properties.

The final significant advantage is the it is an established legal doctrine, rather than a normative legal principle. The fact that is a legal doctrine is important because; legal doctrines provide relatively clear and authoritative legal guidance, whereas normative principles are more subjective and more easily neglected. The fact that it is an established legal doctrine is also important because this means that can be migrated to intellectual property law in the knowledge that it has already successfully withstood constitutional challenges.

Finally, it should be mentioned that these significant advantages, as well as those listed in chapter 12, can be realised without changes to existing legislation and this thesis is not advocating changes to exiting legislation. It is merely pointing out that the correlated rights doctrine which has been successfully applied for over one hundred years in two other bodies of law, can be extracted from the judicial efforts to restrict absolute property rights and will likely achieve better results than restricting absolute property rights.¹⁴⁶⁰

¹⁴⁶⁰ Posner, *How Judges Think*, at 221 "The most effective method of arguing a case, ... is to identify the purpose behind the legal principle and then show how that purpose would be furthered by a decision in favor of the advocate's position. Having done this, he will have to show that the position does not violate settled law, and this will require a further discussion of the cases. So precedent will enter at two stages in the argument: as a source of governing principles and as a constraint on efforts to realize those principles in the novel setting of the case at hand. At neither stage, however, will the good advocate be arguing that the result for which he is contending is already "in" the law."

IP Categories and Suggested Doctrines Summary

Standalone Discretionary

Definition: *patented innovations which are developed by a single entity which do not require integration with enforceable patents owned by others to fulfil their claims and are not essential to the well-being of society.*

Suggested Doctrine: *Absolute doctrine which provides the owner with unrestricted exclusive right to the use of their property, including the right to exclude others from using their property.*

Justification: *Historical IP rights for historical innovations.*

Standalone Essential

Definition: *patented innovations which are developed by a single entity which do not require integration with enforceable patents owned by others to fulfil their claims but are essential to the well-being of society.*

Suggested Doctrine: *Restricted absolute doctrine which provides the owner with the exclusive right to the use of their property, subject to the possibility of a compulsory license being granted.*

Justification: *Ensures the well-being of society.*

Correlated Discretionary

Definition: *patented innovations which have been built upon exiting patented properties and which must be integrated with enforceable patents owned by others to fulfil their claims but are not essential to either the technical or commercial viability of the integrated technological product.*

Suggested Doctrine: *Limited absolute doctrine which provides the owner with unrestricted exclusive right to the use of their property, until it is defined as market essential.*

Justification: *Maintains product differentiation competition.*

Correlated Essential

Definition: *patented innovations which have been built upon exiting patented properties and which must be integrated with enforceable patents owned by others to fulfil their claims and are essential to either the technical or commercial viability of the integrated technological product.*

Suggested Doctrine: *Correlated rights doctrine which provides that when multiple parties have individual property claims on an inherently integrated property each is legally entitled to their proportional share of the aggregate value of the combined properties and the law should protect that share from being appropriated by others, including other owners and user.*

Justification: *An equitable and efficient distribution of rewards from integrated innovations.*